Acknowledgments

I would like to give a heartfelt, special thanks to Dr. C.H. Gill. His patience, flexibility, genuine caring and concern, and faith in me during the research process enabled me to attend to life while also earning my Ph.D. He’s been motivating, encouraging, and enlightening. He has never judged nor pushed when he knew I needed to juggle priorities. We have laughed together and he is also been kind when I needed to cry. When others doubted, he remained a fan. When I became too serious, his humor and friendly sarcasm allowed me to laugh and lightened my perspective. He remained a supporter and provided insight and direction-right up to the end. I could not have imagined having a better advisor and mentor like him for my Ph.D. study. His guidance helped me in all the time of research. Under his guidance I successfully overcame many difficulties and learned a lot. For this, I cannot thank him enough. I am forever grateful. Thank You Dr. Gill Sir!

It is my privilege to thank Dr. B. R. Arbad, Professor and Head, Department of Chemistry, Dr. M. S. Shingare, Dr. R. A. Mane, Dr. T. K. Chondhekhar, Dr. M. K. Lande, Dr. Mrs. A. S. Rajbhog, Mr. S. R. Sonone and other faculty members Dr. B. B. Shingate, Dr. S. T. Gaikwad, Dr. S. G. Shankarwar, Smt. G. M. Bondle and Dr. B. R. Sathe, Smt. A. S. Chavan for their valuable suggestions in my research work at the Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University.

The road to my Ph.D started with training at Ahmednagar College, Ahmednagar. I take this opportunity to say heartfelt thanks to Dr. Vijay Khanna for providing very good training and building confidence in me to start my work.

I am highly obliged to the Principal, Dr. S.N. Thore for providing the infrastructure and necessary facilities. I take this opportunity to thank Principal Dr. P.V. Jabde, Principal Dr. V.G. Sanap, Principal Dr. S. B. Munde, Vice Principal V. P. Sangle, Dr. Rajani Shikhare for their help and encouragement during this work.

My thanks are due to Hon. Shri. Madhukarrao Mulay, Secretary, M.S.P. Mandal, Aurangabad and Vitthalrao Lahane, President, M.S.P. Mandal, Aurangabad for giving me this opportunity.

I am thankful to my research colleagues Dr. Somnath Gholap, Dr. Deepak Nagargoje, Dr. Anant Ghawalkar, Dr. Ratnadeep Joshi, Dr. Smt. Priyanka Mandhane, Dr. Sanjay Dabhade, Dr. Mohammad Shaikh, Dr. Santosh Diwakar, Dr. Nandeo Chavhan, Dr. Dattatray Ghotekar, Dr. Miss Asha Chate, Mr. Pravin Badadhe, Mr. Dadasaheb Shinde, Mr. Rajesh Kale, Mr. Wadhwa, Mr. Pravin Mahajan and Mr. Mukesh Nikam for their cheerful co-operation and help in every aspect throughout this work.

To my best friends, Dr. Ganesh Jadhav, Mr. Sunil Jadhav, Mr. Satpal Landage, Mr. Prasad Dixit, Mr. Nitin Shinde, Mr. Bharat Dond who helped me in various ways, which enabled me to complete the research work successfully and without their support this research work would have been a tough task to fulfill.
I thank my fellow lab mates, Dr. Dinesh Lingampalle, Dr. Dr. Rahul Waghmare, Dr. Kaluram Vidhate, Dr. Jyotirling Mali, Dr. Sandip Sadhaphal, Dr. Swapnil Sonar, Dr. Suraj Sapkal, Dr. Kirti Niralwad, Dr. Amol Kategaonkar, Dr. Dhanaji Jawle, Dr. Ravi Balaskar, Dr. Umesh Pratap, Ms. Manisha Bhosale, Balaji Amarsingh, Lalit, Jitendra, Muburak, for their help.

The work would not have been completed without the help provided by the SAIF Laboratory, Punjab University, Chandigarh for their help in recording the IR, NMR, and Mass spectra.

I am very much thankful to all non-teaching staff of Department of Chemistry for the help extended by them throughout the work.

Special thanks are due to Mr. Prashant Dixit and Mr. Uday Khedkar for their help and cooperation in my research work for testing antimicrobial activities.

It is impossible to express my sense of gratitude for Gill Madam, Gurmeetsingh Bhaiyya and Reema Didi in mere words. The love and affection of these people has been not less than that of my family. I thank them for all that they have done for me.

Finally, I take this opportunity to express the profound gratitude from my deep heart to my beloved parents (Aai and Nana) for their love and continuous support – both spiritually and materially. I also would like to thank my brother Dattatraya, my nephew Prasad and two nieces Preeti and Aarati for the laughter gifted to me with your cute and tender voice on the phone calling me Dada.

Last, but certainly not least, I must acknowledge with tremendous and deep thanks my wife Meera. Through her love, patience, support and unwavering belief in me, I’ve been able to complete this long Ph.D. journey. There are no words that can express my gratitude and appreciation for all you’ve done and been for me. Thank you with all my heart and soul.

Sunil S. Bhagat