Acknowledgements

To GOD be the glory. Great things HE has done! First and foremost, I owe my praise and thanks to my LORD JESUS for the many blessings undeservingly bestowed upon me. HE gave me the courage and strength to face the complexities of life and plod on despite my constitution wanting to give up. HE put my feet on solid ground and lifted me up. HE gave me new hope for tomorrow and put a new song in my heart. I thank you for your grace, wisdom, faithfulness, loving kindness and patience. Thank you so much Dear Lord.

I would like to express my deepest and sincere gratitude to my research guide and Associate professor in pharmaceutical chemistry Dr. Pratima A. Tatke, for providing me the opportunity to work on this intriguing project. Her kindness, constant inspiration, invaluable advice, confidence, great attention, enthusiasm, insightful comments and constant encouragement kept me focused and motivated. Despite her professional and personal commitments, she also cared about my professional development and helped me to identify my strengths and weaknesses as a researcher and as a person. Her knowledge and logical way of thinking have been of great value for me. Her understanding, supervision and guidance have provided a good basis for the present thesis and an extra ordinary experience throughout the work.

I feel privileged and grateful to work with co-guide and co-investigator of this project, Dr. Ashok Vaidya, Medical director, Kausturba health society, ICMR, center for reverse pharmacology, for his helpful guidance, meaningful and constructive criticism throughout the project. I felt motivated and encouraged every time I attend his meeting. His knowledge, energy and enthusiasm in research will have remarkable influence in my research career in long time. In addition, he was always accessible and willing to help his students with their research problems. Besides, he sets an example of a finest researcher for his rigor and passion on research in versatile field.

I would like to acknowledge the Indian Council of Medical Research (ICMR), Government of India, New Delhi, for providing financial assistance in the form of Senior Research Fellowship during the entire duration of project.
I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of my research work and I would thank them all for their invaluable contributions. My sincere thanks to Dr. K.K. Singh, Principal and also Dr. S.Y. Gabhe, ex-Principal and co-investigator of this project, C.U. Shah College of Pharmacy, Mumbai for providing me the essential facilities.

Most of the results described in this thesis simply would not have been obtained or possible without a close collaboration with few laboratories. I am sincerely grateful to Mr. Tukaram Mane, Nicholas Piramal life science, for all his efforts and helped me in spectral analysis of various isolated constituents inspite of his busy schedules.

I owe my very special heartfelt thanks to Dr. P.K. Inamdar for helping me with the characterization of isolated constituents and his help came at the very crucial time, its truly a turning point towards finishing line. I acknowledge and appreciate his willingness to help at any time, enthusiasm and his contribution towards this work.

My sincere thanks goes to staff’s of MMRC KHS Dr. Rama Vaidya, Dr. Amonker, Dr. Chaya Godse, Dr. Nuthan, Ms. Sunbadha and Miss. Priyanka in contributing in different ways during the course of project. I would like to thank Dr. Siva Prasad, Dr. Grace Samuel, Dr. Vijay and Mrs. Jayula Sarnaik, Board of radiation and isotope technology (BRIT), BARC, for not only the opportunity and also helped us to learn the radioimunoassay techniques.

I would like to thank Dr. Chowdhry, of Haffkine’s institute for helping us with histopathological studies. I also extend my thanks to Mr. Dinesh Shirlokar of Botanical survey of India, Pune, helped me with authentication plant materials. I thank Mr. Pravin for supplying Garlic bulbs for the present work from a Garlic farm in Satara district.

I am thankful to all teaching staff’s of C.U. Shah College of Pharmacy, especially Dr. Milin Bhitre for helping me with the interpretation of spectral data. I also wish to extend my thanks to all non teaching staff of C.U. Shah College of Pharmacy, especially I am thankful to Mr. Sudhir, Mr. Hasmukh, Mr. Jayesh for their contribution during the research.
I am thankful to Miss. Yogini S. Jaiswal, partner-in-project for her friendship and help. She was beside me during the happy and hard moments to push me and motivate me. She was the source of inspiration for me in my early days and who taught me many things.

My tenure at SNDT would not have been the same with out the love, affection and support of my friends and fellow Ph.D. labmates Supriya Jirge, Bhagavati mam, Sonal Desai, Tabassum mam, Rachana mam, Shalaka Yogini, Heesha mam, Gandhari, Priti, Usha, Deepali, Darshana, Kavita, Medha, Shruti, Arpita, Aparna, Navleen, Kirti, Sampada, Vaishali and Surekha, They have made each day at SNDT a new experience for me and helping me in various ways and all the fun we have had in the last couple of years.

I am thankful to some Mpharm friends, Latisha, Shymal, Sonal Singh, Tulsi, Sindhu, Sneha, Kiran and Prachi for their valuable help and contributions at various levels.

I would also like to thank some people from early days of my research tenure. I express my deepest gratitude to my special teachers Dr. Anil Kumar, Dr. Grace Rathnam, Dr. Vijaya Bharathi, Dr. Sreedhara R. Pai, Dr. Gopalan Kutty and Dr. Mallikarjuna Rao, who made significant impact in life and helped to become the person I am today. I am also grateful to my seniors, Dr. Veeresh and Dr. Benson for their constant support and encouragement.

It's always my pleasure to acknowledge my best friends Anita, Gokul, Madhu, Smita and Sujatha in various levels of my education, who always cheered me up and listen to me irrespective of their schedules. I thank their love, care and moral support which helped me to get through my difficult times and I am indeed blessed to have them in life.

I am indebted to some of my good friends Neelima, Nirmala, Aradhana, Gipsey, Rukmani, Anand, Rajiv, Sarmista, Suman, Ruth and Suresh for their valuable help, encouragement and support.
I would also like to extend huge, warm thanks to all my hostel friends Ashwini, Priya chowdhury, Netai, Ojasvi phalke, Pratiba Bravoo, Reena Maskare, Priyanka, Shaista, Neelakshi, Khushbhu Zope, Khushbu Bhimani, Rupindher, Komal Raut, Komal Dohia, Kakoli and Priya, who were beside me during the happy and hard moments.

I would regret my doctoral years if I did not join New life Assembly of GOD Fellowship, Juhu. I cherished the prayers and support, and the friendships with my fellow Christian brothers and sisters. I treasured all precious moments we shared and would really like to thank them. Words fail me to express my appreciation to Bro.Deepak and Sis.Tanuja for their support, encouragement, generous care and the homely feeling at all times, who drew me close to the Lord. In addition, my special thanks to Peppy, Lydia, Beena, Sis. Serena, Cheryl and Ruhi, Uncle John, Ralph and Tony and Andrea for their love, care, prayers and encouragement.

Lastly, and most importantly, I extend my indefinite gratitude to my parents Mr. Isaac Sam Raj and Mrs.Bhai Sam Raj, their selfless love, care, unwavering support and constant encouragement in all my endeavors and giving me the life I ever dreamed. To them I dedicate this thesis. My very special gratitude to my loved ones Arun Samuel, Shanthini, Punitha, Behin and sweet little Alden, for their love, support and they stood beside me through thick and thin. I am always indebted to them and so blessed to have you all in the wonderful family. Praise the LORD!!

(I.S.R, Nidhiya)