

Acknowledgement

Keep your dreams alive. Understand to achieve anything requires faith and belief in yourself, vision, hard work, determination, and dedication. Remember all things are possible for those who believe.

A single flower cannot make a garland or a single star cannot make the beautiful shiny sky at the night, same way a research work can never be outcome of an individual's talent or efforts. It is just like climbing a peak, step by step, accompanied with bitterness, hardships, frustration, encouragement, often exciting, sometimes challenging, but always interesting experience. When I found myself at top experiencing the feeling of fulfillment, I realized though only my name appears on the cover of this dissertation, a great many people including my family members, well-wishers, my friends, colleagues and various institutions have contributed to accomplish this huge task. A journey is easier when you travel together. Interdependence is certainly more valuable than independence.

*First of all, I am grateful to the almighty. I feel that God (**My Bhagu**) is so much for me personally. It is God's love which is purifying me and feeling with spiritual might. It is his love which has filled me with quietness and tranquility. Because he is always with me, I never feel alone.*

*It is my profound pleasure to dedicate this thesis to **My Parents, Hasmukhray Savsani and Chetnaben Savsani** whom I always reckon as God. The blessed hands of who always hold me at the worst time in my life. I am extremely grateful for their endless love, care, prayers, patience shown on me and sacrifices for educating and preparing me for my future, always stood behind me in every endeavor and have provide constant encouragement whatever be the situation. I salute you all for the selfless love, care, pain and sacrifice you did to shape my life. **I am specially thankful to papa for showing faith in me and giving me liberty to choose what I desired.***

*For a student his source of inspiration is always his guide. Word flounder in expressing my deepest sence of gratitude towards my esteemed guide and mentor **Dr. Kirti V.Patel***

for her valuable ideas, guidance, creative and constant motivation throughout the course of this work. Apart from her technical and scientific guidance, her caring attitude, encouragement and affection were very critical for me to complete this work. I have always benefited from her useful comments, suggestions and constructive discussions. I thank her for devoting enormous efforts and it was pleasure of working under her guidance. I am grateful to her for spending her valuable time and guidance for me.

*Words fail me to express my appreciation to **Pratibha aunty** for her support, generous care and the homely feeling (Specially Bhajiya) at Baroda. She was always beside me during the happy and hard moments to push me and motivate me.*

*A good support system is important to surviving during the journey of Ph.D. I was lucky to have my support system in the form of my best buddy, **The Ankit Javia**. His attitude of living every moment as it comes, making serendipitous observations and converting them to new possibilities, correlating ideas and understanding the obvious has helped me come a long way. He always understood my anxieties and worries and stood beside me in every stage of life and always ready for timely help and care.*

*I am indebted to **Ms. Sneha Satani** for always beside me during the happy and hard moments to push me and motivate me. You were always around at times I thought that it is impossible to continue, you helped me to keep things in perspective. Words would never say how grateful I am to you. I consider myself the luckiest in the world to have such a **sentimental Dhinglu (Innocent Rabbit)**, lovely and caring person, standing beside me with their love and unconditional support. During the inevitable ups and downs of conducting my research she often reminded and listened me a song of Krishna **“Ye Prathna Dil Ki bekar nahi hogi pura hai Bharosa Meri Haar nahi hogi”**. This helped me a lot to work for hours together tirelessly. I specially owe a great deal of appreciation and gratitude to you for the formatting and compilation of my thesis when you had critical injury during these phase. Also I like to salute you for the passion of my thesis work during your hospitalization.*

*I would like to express my sincere thanks to **Prof. Sadhana J. Rajput, Prof. Krutika Sawant, Dr. R. C. Mashru, Mr. S. P. Rathod, Dr. Hetal Thakkar, Prof. M. R. Yadav, Prof. A. N. Mishra, Mr. Bhavik Chauhan, Dr. Prashant Murumkar**, for their valuable support and suggestions and providing all necessary facilities.*

*Most of the results described in this thesis would not have been obtained without a close collaboration with other department. I am thankful to **Dr. Sarita Gupta** (Head, Department of Biochemistry, Faculty of Science, The M. S. University of Baroda) to provide the facility for cellular and molecular studies, and **Dr. Abhay Shrivatsava and Mr. Gaurav Chauhan** Ph.D. Scholar, (Department of Biochemistry, Faculty of Science, The M. S. University of Baroda) for their help in cellular study and western blotting.*

*I would like to thank **Mrs. Zalak Tripathi** Ph.D. Scholar, (Department of Zoology, Faculty of Science, The M. S. University of Baroda) for provide me some anti-bodies.*

*I acknowledge the Support of **Dr. P. S. Nagar** (Botany Department, M. S. University of Baroda, Vadodara.) for plant authentication and thanks to **Dr. Kishor Rajput** for carrying out the powder microscopic studies.*

*I wish to thank **Mr. Prashant Handa** (Anchrome Enterprises Pvt. Ltd.) for standardization of plants extracts by HPTLC method.*

*I would like to thank **Dr. Sarika Johri, Mrs. Hital Shah and Ms. Prexita Patel** (From Anand Pharmacy College, Anand, Gujarat.) for their help in Langendroff Heart Experiment and providing me other technical support.*

*I immensely thank to **Dr. Satish Patel** (Animal house In charge, ZYDUS RESEARCH CENTER, Ahmadabad) for providing me the animals for my research work.*

*I had a magnificent Pharmacology team during my dissertation work. I am thankful to **Dr. Jatin Machhi** for scientific conceptual support. It was pleasure of working with my colleagues cum good friend because of their selfless support that made the working environment full of joy and enthusiasm; **Dr. Prachi Karia** for sharing her soft skills with*

me, Mr. Sagar Patel for help me in blood pressure and other experiments, Ms. Trupti Dubey for explain me about molecular genetics concepts, Ms. Shivangi patel for help me in experimental work. Moreover, my beloved juniors, Ms. Mausam Patel, Mr. Amit Patel, Mr. Ramesh Chaudhary, Mr. Jaymin Chaudhary made the lab atmosphere very friendly. I have learned so many scientific things from them.

I would like to thanks P'ceutical QA team: Dr. Mohit Mahajan, Dr. Priya shah, Dr. Prachi Bhamre and Dr. Riddhish Patadiya for help me in HPLC and Bio- analytical studies. I am also thankful to Dr. Priynka, Dr. Pravin Shrivastava, Mr. Lalaji Rathod, Mr. Parva Jani, Dr. Kinjal Parikh for constant help and technical support in query related to Pharmaceutics.

I cordially thanks to research Scholar of medicinal chemistry lab, Mr. Rahul Gauge, Mr. Atul Khadse, Dr. Mayank Sharma, Mr. Nirav patel and Mr. Dushiyant patel for help in IR, GC analysis and interpretation of analytical data. I heartily thankful to Dr. Reshma Jain, Ms. Banu Patiwala, Mr. Bhavesh Varia, Mr. Jinal Trivedi and Dr. Hardik Gandhi for explaining some Pharmacological and Pharmacognostic concepts.

A most and imperative thing was a time exhausted in Dr. V.S. Hall was very memorable. I couldn't think even in my dream to disregard such an outstanding moment. So heartily & special thankful to Mr. Ankit Javia (Chote miya), Mr. Jigar Vanza (Kumbhkarana), Mr. Milan Jasani (Gilo), Mr. Mahesh Barmade (Shivaji the boss) , Mr. Denish Bardoliwala (Denny dengjapa), Mr. Brijesh Patel (BP), Mr. Parth Patel (Donald Trump), Dr. Nimesh patel (Caterers), Mr. Pravin Patil (King of Pauva) and Dr. Jitendra Amrutiya (Jitu bhai) for all "DHINGAMASTI" with all of you, for all your supports, good wishes and moral boosting which has been a stepping stone to success for me.

I take this opportunity to sincerely acknowledge The Maharaja Sayajirao University of Baroda, for financial assistance in the form of Research Scholarship.

*I am also thankful to **Mr. Dhruv Butani, Mr. Hitesh Savsani, Mrs. Dharti Zalavadia Mrs. Smita Aghara and Mrs. Viral Kaneria** for all their help, motivation and positivity, also thanks to **Mrs. Jinal Shah (Baghu) and Ms. Heena Parmar** for your inspirational and moral support.*

*I am obliged to **Vishali mam, Bharatbhai, Bhoomi mam, Chandrakantbhai, Dhruvisha mam, Varsha mam, Jalpa mam, Bhoomi Mam, Heena mam** for their support in my authority paperwork since the start of my doctoral study.*

*I likewise recognize the co-operation gave by **kiranbhai, Pragneshbhai, Pravinbhai, Pramodbhai, Naginbhai and Jagdishbhai, Prashantbhai, Chandrakantbhai, Mashrubhai, Habibbhai** in connection to any lab work and Non technical support.*

*It will be really unfair if I don't mention about **My innocent, sacrificed animals (Little Champs)**, if this project has been a success, it is just because of them only. Mere words cannot express my gratitude to the souls of those rats whose lives.*

I am thankful to all those who have helped me in whatsoever manner during this work whom I might have missed inadvertently.

Hardik H. Savsani