

***DEDICATED TO MY  
PARENTS***

***Mr. Amin Lalani***

***&***

***Mrs. Muntaz Lalani***

## *Acknowledgements*

As well said:

It is good to have an end to journey towards; but it is the journey that matters, in the end.

- Ursula K. Le Guin

Above all, I would like to thank almighty God for the beautiful life endowed on me and to always show me a better path during the journey of life. I, pray for his warm blessings and have utmost trust on him that he will take care of my loved ones. My subsequent acknowledgements is to my Parents, no lesser than God. Sometimes, I wonder whether is there any way to express my feeling that I have and that I would like to share to them, about reciprocating to the immense efforts and wisdom provided to me till date, I bet, I won't be able to make up. They have always been there for my support. My mother, **Mrs. Mumtaz Lalani**, sharing and caring me in her best possible way, no matter the situation, no matter the time, I always know she's there for me. My father, **Mr. Amin Lalani**, a noble man, doesn't say much or express, but I always know, shares the same affection as of mom and believes in me. My brother **Gaurav Lalani**, engrossed in his job, still finds time to call me up and share the experience he has been through. My lovely sister, **Gira Mukhi** and My brother in law **Amanbhai Mukhi**, calling me up often to know my state in research, moments I share with them wholeheartedly.

My utmost and sincere thanks and regards to my supervisor, **Prof. Ambikanandan Misra**, Professor in Pharmaceutics, Faculty of Pharmacy, The Maharaja Sayajirao University of Baroda first of all for giving me an opportunity to get enrolled under his esteemed guidance for pursuing my doctorate. During this long tenure of three years, which now seems have passed in a moment, I am honored to spent countless moments under his valued guidance. Those critical suggestions for moving the project forward, those follow ups, those wise words, those crucial decisions and many unsaid aspects of his diverse knowledge and personality that one longs for. He is a true mentor and supreme leader. His constant encouragement, and appreciation kept me motivated throughout and helped me immensely in completing this research.

I have been endowed company with some of the coolest person, person with immense knowledge, person with keen research astute and having an optimistic approach to accomplish all of the toughest task that have been assigned to them. I would like to mention **Dr. Imran Vhora** (Postdoc at Florida A&M University), with whom I have had not just moments but much more than I could define. Our weirdest laughs in any situation, our rapport is just amazing. No matter how far he is currently, still never changes with time. **Dr. Priyanka Bhatt**, so much to learn from her. She has a pure and perfect vision to undertake any formidable challenge or research and complete it with ease in an organized manner. She is always keen to help others. I remember her coming in the college and breaking the pin drop silence with her voice, and initiation of an endless talk one would tired to hear, but she won't stop. **Dr. Sushil Kumar Patil**, man of few words, silent, smart

and diligent in every aspect of research. He is the solution of any problem. **Mr. Vivek Patel**, calm and organized in each and every situation. He has been a true friend, helping me out in my tough situation and a friend to share my feelings of joy and grief. I am thankful to **Dr. Hinal Patel** for her support and help in carrying out some of the experimental protocols. We used to discuss many aspects of my project and her advise was very helpful for understanding aspects related to gene and siRNA. **Mr. Jitendra (Jitu) Amrutiya**, always carrying a sincere stance and talks only when asked for. I would also like to mention upcoming talent of department, **Mr. Ankit Javia** and **Mr. Denish Bardoliwala**, both equally honest and sincere in their efforts.

I am grateful to University grant commission (UGC), India for their initiatives in funding and fellowships for research students and for awarding me UGS-MANF Fellowship.

I am also thankful to Dr. Kirti Madam, Co-ordinator, Shri G. H. Patel Pharmacy Building for extending his continuous support on easing the facility improvements whenever required that was of immense help accomplishing various tasks of my dissertation and also to Rathod Sir, former Co-ordinator.

I would like to extend my thanks to Dr. Rajashree Mashru, Prof. M. R. Yadav, Prof. Krutika Sawant, Prof. Sadhana Rajpoot, Late. Prof. Rajini Giridhar, Dr. Pankaj Nagar, Dr. Hetal Thakkar, Dr. Prashant Murumkar, Dr. Navneet Prajapati, Hemal Madam and Bhavik Chauhan Sir who have always been keen in professional excellence of the students of the department.

I would like to personally thank my departmental seniors' Mr. Kaushal Patel, Dr. Atul Kolate, Jagruti Desai Madamm, Prachi Bhamre madam, Madhuri madam, Pravin Srivastava Sir, Rahul Dhande Sir, Arpita madamm, Nitish Agrawal sir, Mahesh Shidore sir, , Ashish Kanhed Sir, Veenu Mundada madam, for their support and brief chats I had with them at G. H. Patel Pharmacy Building.

I personally extend my thanks to Mahesh Barmade, Mayank Sharma ji, Rahul Gughe sir, Atul sir of chemistry department, Mohit sir of analysis department and Jatin Machhi and Sagar Patel of pharmacology department.

I also take opportunity to extend my gratitude for Jigar bhai (Jigar Shah), Microbiology Department, Faculty of Science, The Maharaja Sayajirao University of Baroda for his guidance on plasmid amplification and isolation as well as helping in conducting experiments at his lab whenever required.

I am thankful to Prof. Sarita Gupta, Co-ordinator, Dr. Vikram Sarabhai Science Center, M. S. University of Baroda for her support to carry out Ultracentrifugation, Mass Spectrometry and cell line studies i.e. fluorescent microscopy and FACS. Pradip Sarkate has extended his unprecedented support for carrying out Mass spectrometric analysis of synthesized phospholipids. I would thank Komal Madam, Pooja Madam Dr. Akhilesh, Dr. Tushar Shah, for their continued guidance and practical support on the cell line studies.

I would like to acknowledge Sun Pharma Advanced Research Center, Vadodara for supporting on TEM and mass spectrometry. I thank Dr. Sachin Naik and Dr. S. Bhoumick for their support for the TEM analysis of the developed formulations. I am thankful I personally thank my friend and companion since my Bachelor's degree, Virpal for his assistance in carrying out Mass Spectrometry of some synthesized compounds and his guidance on interpretation of the spectra.

I also thank Sophisticated Analytical Instrumentation Facility, University Institute of Pharmaceutical Sciences, Panjab University for support in carrying out Proton NMR studies of some compounds.

This acknowledgement would be incomplete if I do not appreciate the efforts of master's students of 2014-17 batch who with their various queries have given me the opportunity to learn those theoretical and practical aspects that were beyond the scope of my research work and have extended my outreach in understanding the subject widely.

I am indebted to Vaishali Madam and Pravin bhai for their assistance in all the financial and administrative aspects. I owe a special thanks to all office and laboratory staff Hasumati Madam, Heena Madam, Chandrakant bhai, Chandrakant, Nagin bhai, Jagdish bhai, Pravin bhai and Pramod bhai of the department of pharmacy, M.S. University of Baroda, for their constant help. I am indebted to Jignesh Prajapati for his constant support in maintenance of labs and equipment.

Last but not the least I express my gratitude and apologize to everybody whose contribution I could not mention.

With best regards and utmost gratitude,

**Rohan A. Lalani**