

## Acknowledgements

First of all, salutation to Lord Shiva, the reigning deity of holy city Kashi for making my sojourn fruitful. I bow at the lotus feet of *Bharat Ratna* Pandit Madan Mohan Malaviyaji, founder of the Banaras Hindu University. Living in his abode, I always felt a sense of holiness. The Banaras Hindu University is Pandit Malviyaji's crowning achievement. It is a stupendous monument to his peculiar genius, his audacity in conception and his persistence in execution. The University symbolises Malviyaji's respect for the past, confidence in the present and hope for the future generation of India.

It is a matter of privilege and joy to express my feelings of gratitude towards my revered *Guruji* Prof. Sushant Kumar Shrivastava. It has been an honour to be under his tutelage as a Ph.D. student. I am thankful for his continuous support throughout my research, for his patience, motivation, and immense knowledge. I am indebted to him for his appreciation for success and backing and support in failures, which ultimately made me keen to tackle any obstructions occurring during the research work. Without his supervision and constant help, this dissertation would not have been possible.

I also take this opportunity to express my deepest gratitude to my co-supervisor, Prof. Radhey Shyam Srivastava. I am profoundly indebted to him for his constant inspiration, valuable suggestions and help which have led to the successful completion of this work.

I am also grateful to Prof. S.K. Singh, Head, Department of Pharmaceutics, Indian Institute of Technology (Banaras Hindu University), Varanasi and Prof. B. Mishra, (Former Head) for allowing me to use the Departmental facilities for carrying out my research work.

I owe my gratitude to all my respected RPC members for their encouragement and insightful comments leading me to the completion of the research work. I would also like to thank Prof. S.K. Srivastava (School of Biochem. Engg., IIT(BHU), Varanasi), Prof. Sanjay Singh, Dr. S. Hemlatha, Dr. Sairam K., Dr. Senthil Raja A. and Dr. Gyan Prakash Modi.

I take the opportunity to sincerely acknowledge the University Grants Commission, (UGC) & MHRD, New Delhi for providing financial support in the form of Research Fellowship that immensely helped me to achieve my goals. I also thank the Department of Biotechnology (DBT), Department of Science & Technology (DST), Indian Council of Medical Research (ICMR), New Delhi and IIT (BHU), Varanasi for awarding me the travel grant to present my research work before an international audience. I am also grateful to the Head, Department of Chemistry, BHU, for  $^1\text{H}$  NMR and  $^{13}\text{C}$  NMR analysis. My sincere thanks to Mr. Sushant A. Shengule for his invaluable assistance and help in designing and carrying out a part of the pharmacological evaluation studies at the National Toxicology Center, Pune.

I pay my sincere thanks to Mr. Nandlal, Mr. Madan, Mr. Upadhya, Mr. Sanjeev, Mr. Yashwant, Mr. Jameel, Mr. Pathak, Mr. Arun, Mr. Gopal, Mrs. Saroj Kumari, Mrs. Archana Singh, Ms. Shyamli Ghoshal other non-teaching staff of the Department for their timely assistance and co-operation during my Ph.D. tenure.

I would particularly like to acknowledge the contribution of my batch-mates Nagendra, Ankit, Dr. Dileep, Ranga, Dr. Debapriya, Sanjay, Anshul, Gopal, Vijay, Devendra and Abhinav. It is not sufficient to express my gratitude with only a few words. They have always been there to motivate me during the hour of hardship and helped me unconditionally throughout Ph.D. tenure.

I am indeed thankful to have the company of friendly lab mates Mr. Pavan, Mr. Prabhash, Mr. Avanish, Mr. Tanmaya, Ms. Priyanka & Mrs. Mousami who were ever ready to provide me with all possible help. They created a happy working environment and foster camaraderie within the laboratory. I am also thankful to my dear friend Mr. Piyoosh A. Sharma for his tireless help in the compilation of this thesis. Amongst my juniors, I would like to thank Gayasuddin, Gufran, Ravi, Amitabh, Mukesh, Ravindray, Gopi, Devendra, Sathish, Gunjan and Nayan for their alacrity and support during the tenure.

I also acknowledge the warm support extended to me by Dr. Manish Kumar, Dr. Damiki Laloo, Dr. S.K. Prasad, Dr. Gireesh K. Singh, Dr. Himanshu Tripathi, Dr. Vijay Yadav, Dr. Sudheer Mallik, Mr. Ravi B. Singh, Dr. Aditya Singh, Mr. Anjani K.

Singh (CA), Dr. Anand Kumar and Mr. Gyanendra Singh. They made my stay at Varanasi a very pleasant and memorable one.

I would also like to express my thanks to my ever supportive seniors: Dr. Nirupam Das, Dr. Meenakshi Dhanawat, Dr. Saurabh K. Sinha, Dr. Chhanda C. Danta, Dr. Rahul Tripathi, Dr. Subhashish Chakraborty, Dr. Rajesh Kumar, Dr. Sanjay Bharti, Dr. Achint Jain, Dr. Dinesh Patel, Dr. Gulam Hussian to name a few who were always there with a helping attitude whenever I was in need.

A loving appreciation is reserved for my dearest sister Tulika and loving cousins Anindiya, Riteeka, Rishank and Udantika. Most importantly, none of this would have been possible without the love and patience of my parents. My parents have been a constant source of love, moral support and strength all these years. I owe this achievement to both of them.

Last but not the least, I pray God for the animals who were mortified for the cause of research and advancement of knowledge. May their souls rest in peace.

**Date:**

**Place:** Varanasi

**(Banerjee Anupam Gaganchandra)**