Acknowledgements

From the depth of my heart I express my deep sincere gratitude to the Almighty for the Blessings He had bestowed upon me to do this work.

At this juncture, I would like to thank those who helped make this thesis a reality. I am grateful for everyone’s dedication and support throughout the years of my research.

First and foremost, my deepest gratitude goes to my mentor and guide Professor Renu Chadha, an eminent teacher and connoisseur in the field of Thermodynamics and Solid-state Chemistry. I have profound respect for her and her research work. She is the model of inspiration! Her experience, moral support and unending optimism went a long way in successful execution of this work. I want to extend my deep appreciation for her insightful suggestions and discussions, for sharing her valuable expertise in the art of writing manuscripts and for reviving the joy of pure scientific curiosity in me. I will be forever grateful to her for having faith in me and giving me an opportunity to conduct research under her expert supervision.

I owe my sincere thanks to Professor V. R. Sinha, Chairman, University Institute of Pharmaceutical Sciences, Panjab University, Chandigarh, for providing me with excellent conditions and an encouraging atmosphere for scientific work.

I also thank Professor Karan Vasisht, Ex-Chairman, University Institute of Pharmaceutical Sciences, Panjab University, Chandigarh, for his tremendous support and encouragement during my stay at UIPS.

It is difficult to overstate my gratitude to Dr. D.V.S. Jain, Professor Emeritus, Department of Chemistry, Panjab University. His sound scientific judgement and encouragement were invaluable. His expertise helped to enhance the analysis and discussion in my papers published in reputed journals.
I am indebted to Professor P. Venugopalan, Department of Chemistry, Panjab University, for conducting single crystal analysis on co-crystal of Oxcarbazepine, that helped me in filing a patent application.

My deep gratitude goes to Professor T.N. Guru Row (Solid State and Structural Chemistry Unit (SSCU), Indian Institute of Science, Bangalore-560012, INDIA), his post-graduate student, Ms. Archi Dasgupta and Professor Sanjay Mandal (Indian Institute of Science Education and Research, Mohali-140306, INDIA), his Ph. D. research fellow, Ms. Sadhika Khullar for their invaluable help in providing single crystal data of my samples.

I also express my thanks to Laboratory and Technical staff of Pharmaceutical Chemistry division, particularly, Mr. Dhruv Deb, Mr. Ravinder Pal, Mr. Dharamchand, Mr. Kishori Lal, Mr. Ramashankar and Mr. Sushil for their help during the study. I also express particular thanks to Mr. P. D. Choudhary, Librarian, and Mr. Dayal Chand, Asst. Librarian, for their kind co-operation.

I would like to say a special thanks to past and present members of Prof. Renu Chadha’s lab for their wonderful co-operation: Poonam, Sushma, Astha, Swati, Madhu, Rajwinder, Mamta, Sumit, Esha, Rekha, Monika, Natasha, Kunal, Somnath, Darpan, Ashish, Abhimanyu, Neha, Divya and Dimpi. I have great memories of working and laughing together.

The love and support from my family have encouraged me throughout the years of PhD. My Mom and Dad were always there for me and instilled the value of an education at an early age. I will be forever grateful to them for loving, caring and teaching my son so well while I was busy with my research. My di Romila, bhai Sushil and bhabhi Guneet have always been there for me, if I need to talk, to take my mind off the research for a bit, no matter what time of the day. I am heartily thankful for the constant understanding from my Parents-in-law during the years of my Ph. D.

Words fail to express my appreciation to my husband, Vivek. I am blessed to receive his patience, understanding and endless love through the entire years of my research. He has been here for me through all my times of laughing and crying; he has helped me slow down
and appreciate the small yet significant moments in life and celebrated n
achievement throughout my research and beyond. His support kept me going di
most difficult times. I am eternally grateful to have you in my life.

Avi, my son, in the past few years, I was not always beside you when you wanted
your happiness, sadness or fear with me. But, I always tried to send my love to you
the prayers. You are a great son for me. I’m proud of you, my sun!

Finally, I offer my regards and blessing to all of those who supported me in any
during the completion of my research. Thank you for your support.

This doctoral research was made possible by financial contributions from Univer
Commission- Research fellowship for meritorious students, New Delhi.

Date 17.10.2012.

Anupam