Acknowledgement

I would like to take this opportunity to thank several talented individuals, friends and well wishers, without whose support and guidance, this Ph.D. thesis would not have been completed.

First and foremost, I would like to express my sincere thanks and gratitude to Prof. P. Bahadur, whose supervision, guidance and support through all the phases of this work enabled me to complete this thesis. Prof. Bahadur helped me understand the world of polymeric surfactants, their unique characteristics and their applications in delivery of hydrophobic drugs. He directed me to effectively use my background in pharmaceutical development field and broaden it by combining it with the newly emerging applications of block copolymers. Prof. Bahadur’s innovative thinking and guidance, helped me understand the vast opportunity block copolymers provide in developing new cutting edge drug delivery technologies. I am confident that in coming years, scientists like me and many others will use these polymers in drug development.

I would also like to acknowledge my colleagues Dr. Paresh Parekh, Dr. Arpan Parmar, Dr. Suresh Chavda, Nilesh Dharaiya, Vijay Patel and Mehul Khimani, who gave me tremendous support throughout this work. I wish to express my special thanks to Dr. Tejas Patel, Dr. Bhavesh Bharatiya, Dr. Ketan Kuperkar and Dr. Yogesh Kadam for stimulating technical discussions and their willingness to share their years of polymer, surfactant knowledge and experience with me, which were very essential for shaping up my ideas and research in this field.

I offer my sincere thanks to authorities of Chemistry department for providing the necessary laboratory facilities and assistance for successfully completing my research work.

Special thanks are due to Dr. V. K. Aswal, Dr. G. Verma, Dr. P. A. Hassan and Dr. R. Ganguly BARC, Mumbai, India SANS and DLS measurements.
I would like to thank Dr. Tony Kong, Rutgers University, NJ from whom I learned drug metabolism, PK and drug delivery technologies. I also thank Dr. Ketan Shah and Dr. P. Varanasi, S. C. Johnson Co., for providing help in surface tension and DLS measurements.

I would like to express my sincere thanks to my husband, Dr. Kamesh Yerramilli, whose vast knowledge in the industrial applications of surfactants and honest critique of my work helped me do this work with the end use application in mind. Thank you very much for everything you have done to me. Lastly, I would like to express my deep sense of gratitude and respect to my father, Dr. B. B. Sharma, who always encouraged me to do the best and has been a tremendous source of inspiration throughout this work. This thesis is dedicated to him.

October, 2012

(Usha Sharma)