It is a moment of gratification and pride to look back with a sense of contentment at the long traveled path, to be able to recapture some of the fine moments, to be think of the infinite number of people, some who were with me from the beginning, some who joined me at different stages during this journey, whose kindness, love and blessings has brought me to this day. I wish to thank each of them from the bottom of my heart.

It gives me immense pleasure to express my sincere thanks and gratitude to my research advisor Prof. P.V.V. Satyanarayana for his explicit guidance, support and encouragement throughout my research work at the Department of Chemistry, Acharya Nagarjuna University.

I would like to acknowledge the support of Dr. Battula. Srinivasa Reddy, Director in RA Chem Pharma Limited, Hyderabad for providing the financial support and laboratory facilities.

I would like to extend my sincere thanks to Prof. Ch. Rambabu, Chairman, Board of studies (PG Chemistry), Dr. B. Hari Babu, Coordinator, Department of Chemistry, Prof. B. Syamasundar and other faculty members of the Chemistry Department, Acharya Nagarjuna University, for their significant cooperation and help during my tenure in the program.

All my work would have not been possible without the blessings, moral support and tolerance of my family members. I am thankful to the Almighty for blessing me with the hope and energy in carrying out this work.

(Ravi Kumar Kannasani)