Acknowledgments

I would like to memorize my initial Ph.D days, I used to irritate all the labmates with my questions, used to show their impatience, misunderstandings..., clarifications..., discussions..., fun hours..., celebrations at various occasions..., .... Wow what a wonderful and overwhelming experience with in this great HCU campus. I have learned so many things from my surroundings, it helps me a lot through out my life.

I owe my deepest gratitude to Prof. Susanta Mahapatra for giving this opportunity to work with him, his excellent guidance and constant encouragement throughout my research work. His determination and hard work are inspirational to my research career. The experience that I gained in the last five years through his suggestions, comments and even critiques will help me in all my future endeavors.

It has been a great and exciting experience to study at School of Chemistry because it was one of my dreams to study in this great campus. My sincere thanks to the former and present Deans and all the faculty members for their assistance during my Ph.D. years. A special thanks to Prof. K. D. Sen, Prof. M. Durga Prasad, Prof. M. V. Rajasekharan and Prof. T. P. Radhakrishnan for their wonderful lectures on Quantum chemistry, Molecular spectroscopy, Mathematics and coding with Fortran programming. I thank Prof. S. K. Das, Prof. Lepiné Franck, Prof. Victor Despré and Prof. Alexander Kuleff, for fruitful discussions on collaborative projects. I also thank all the non-teaching staff of the School of Chemistry for their assistance on various occasions.

I am very thankful to the Council of Scientific and Industrial Research (CSIR), New Delhi, for the financial support and the Centre for Modelling Simulation and Design (CMSD), University of Hyderabad, for computational facilities.

I am grateful to Sri Krishnadevaraya University, Anantapur, classmates and seniors for encouraging me to do Ph.D.

I consider it as an honor to work with my labmates Jayachander Rao, Sivaranjana Reddy, Tanmoy Mondal, Susanta Ghanta, Rajgopal(Sr), Rajgopal(Jr), Tanmoy Roy, Rudraditya Sarkar, Sugata Goswami, Krishna Reddy, Arpita Ghosh, Aleem, Subrahmanyam, Arun and Saritha, Sridhar and Dinesh of Prof. M. D. P. group for many fruitful discussions, help and their warm company on various occasions. Their association will remain forever in my memory.

I thank Mrs. Gitashree Mahapatra (madam), Anusha and Anish for providing me a
homely atmosphere in several occasions.

I would like to thank all my School of Chemistry friends Ramu, Anand, Siva, Sivarama Krishna, Sasi, Yasin, Ramakrishna(BR), Pavan, Tiru, Ramu Yadav, Gupta, Obayya, Hari, Ramesh anna, Durga Prasad, Kesav, Srujana, Ashok, Chandu, Praveen, Ravi anna, Kishore, Sudeer, Rama Krishna, Babu, Nagarjun, Srinu, Gangadhar, Anji anna, Sekhar anna, Santosh, Hareesh, Bhanu, Nagarjuna, Venu, Seshadri, Sudha Rani, Madhu, Chandu, Narayana, Ramu, Barath, Kishore, Rambabu, DK anna, Viji, Ramesh, Rama Raju, Kishore, Anand, Nagarjun, Ugandar, Ganesh, Vignesh, Sekhar Reddy, Srinu(D), Srinu, Charu, Karunakar, Nanda, Satish, Vikranth, Naveen, Srinu, Sasank, Siva, Durgesh etc. without them my life would have been boring.

I would like to take this opportunity in thanking Gopal Reddy, Madhusudhan Reddy, Subba Reddy, Subba Reddy. N, Chenna Kesava Reddy, Siva Prakash, Jaipal Reddy, Sivanaga raju for their unconditional love, affection, encouragement, understanding and support throughout my career. “As I have lot of friends, it is indeed a difficult task to mention them all here. I acknowledge each and every one of them for their contribution from the bottom of my heart.”

I am indebted to all my teachers, especially my first teacher in my school days Siva Reddy sir and college teachers Obula Reddy sir, Venkatnatha Reddy sir and all the Chemistry faculty members of SKU, Anantapur for providing gifted education.

I am so lucky for having a big and combined family, I am truly thankful to god for giving the wonderful family. I take immense pleasure in thanking my parents (Jayanagi Reddy and Eswaramma (late)), brothers(Siva Nagi Reddy, Siva Nagarjuna Reddy, Naga Vardhan Reddy and Naga Maheswara Reddy), Sister-in-laws (Hari Krishnamma, Siva Lakshmi Devi, Sujana and Sunitha) and their kids (Jyothy, Sravanthi, Prakash, Vijay, Teja, Yesvanthi, Kavya and Praneeth), sisters (Naga Lakshmi, Naga Surya, Nagamma, Amman), brother-in-laws (Chenna Reddy (late), Krishna Reddy, Naga Bhusan Reddy (late) and Sreenivasa Reddy) and kids Gowtami, Laya and Tinku, and also the extended family members for their love, care and unconditional support.

I have so many memories, I will forever thankful to all my roommates Raj(Jr), Sridhar, Ramu, Anand, Siva and Sivarama Krishna, for being part of my life, collaborates with me on the experiments I have made on cooking and the fun hours they have spent with me and friends Sivarajana Reddy, Gupta, Raj(Sr), Aleem, Krishna, Dinesh, Saritha, Sasi, Yasin, Ramakrishna(BR), Pavan, Ramu Yadav, Tiru, Obayya, sreenivas for creating un removable memories in my heart. I will carry all these memories through out my life.

-Nagaprasad