ACKNOWLEDGEMENTS

This thesis would not have been accomplished without the support and encouragement of numerous people including my well wishers, my friends and colleagues who contributed in many ways to the successful completion of this thesis.

First and Foremost, I would like to express my sincere gratitude to my research guide Dr. B.S. Tomar for the continuous support, patience, motivation, and enthusiasm. Whatever I learnt in the field of actinide speciation is because of him. His encouragement, immense knowledge and experience helped me in overcoming all the hurdles not only during the course of my Ph.D but in all spheres of life. I owe my deep sense of gratitude for his unimaginable support and inspiration. I could not have imagined having a better guide and mentor for my Ph.D. study.

Besides my advisor, I would like to thank members of my doctoral committee; Prof. K.L. Ramakumar, Prof. V.K. Manchanda, Prof. A. Goswami, and Prof. P.K. Mohapatra for their time, encouragement, thoughtful ideas and critical evaluation during the course of Ph.D. My sincere thanks are due to Dr. Neetika Rawat, Dr. Sumit Kumar, and Ms. Sharayu Kasar for all their percius help, simulating discussions and cooperation.

I am heartily thankful to my collaborators at Shri M. Mohapatra, Dr. S.V. Godbole (RCD), Dr. S. Ramanathan (MSD), Dr. R. K. Vatsa, Dr V. Sudersan (CD) for their help, cooperation and suggestions during the course of the work. I would also like to thank my colleagues Dr. M. S. Murali, Dr. P. N. Pathak, Dr. A. Bhattacharyya, Dr. S. Ansari, Dr. S. Sodye, Shri D. R. Prabhu, Shri A.S. Kanekar, Shri. S. K. Gupta, Shri. K.K. Yadav, Ms. Neelam, Ms. Sanhita, Ms Priya, Ms. Ruma, all members of RACD with Dr. R. M. Sawant, Dr. Ankita, Ms. Manjulata, Shri. Rammohan in particular, Shri T. V. Vithal Rao for their help, encouragement and support during the course of the research work.
I am blessed to have friends who are constant source of laughter, joy and support. I would like to thank all my friends Vinita, Dheeraj, Renu, Raj Kishore, Sangeeta, Chhavi, Shankar, Sachin and Parimal who always stood by me and lend constant encouragement and support. I would also like to thank all my training school batch mates for their warm friendship which helped in sailing through all hardships.

I would like to acknowledge all the teachers; I learnt from since my childhood, I would not have been here without their guidance, blessings and support.

Finally, I would like to acknowledge the people who mean the world to me, my family. I would like to thank my parents for their unconditional love, support, faith, encouragement and confidence in me. They have been my driving force and inspiration in all pursuits of life. I owe all my accomplishments to them. My sister (Parul) and brother (Bharat) have been constant source of love and confidence and their belief and hope helped in overcoming all hurdles of my life. I would like to thank my parents in laws for their unconditional support and faith. I would also like to thank my sister in laws (Sonali, Shweta & Sneha) and brother in laws (Vipin & Somendra) for constant encouragement and support. I run short of words in expressing my gratitude towards my husband Soumitra who always stood by me and encouraged me up at every step of life. He has faith in me and my intellect which helped me to keep things in perspective. He is everything for me, without his love and understanding I would not have been able to make it. I would like to express thanks to my daughter Arunima who in her own way geared me up to reach the goal. Thanks are due to my nephews (Divit and Homi) and my niece (Aadya) for their love which gave me strength to pursue my Ph.D.

Lastly, I would like to thank everybody who was important in the successful realization of this thesis, as well as apologize that I could not mention everyone personally.

Aishwarya Soumitra Kar