ACKNOWLEDGMENTS

This thesis has been possible only because of good wishes of innumerable people. I sincerely apologize for my inability to acknowledge many of them, because of lack of space.

My supervisor Dr Ramesh Sonti is an excellent teacher, a brilliant scientist, caring like a father and highly professional when it comes to science. I have no words to mention his contribution towards my career, I just thank God for giving me such a guide.

I am grateful to Dr Pushpa M. Bhargava, the founder director and both the directors during my stay in CCMB, Prof. Balasubramanian and Prof. Lalji Singh. I am thankful to Mr Rakesh K. Sharma, the former Controller of Administration, CCMB, for his kind help during my visit to UK.

I greatly acknowledge Rajeshwari, Yashi and Vishnu Priya for their help during my Ph.D. They helped me both in scientific and non-scientific matters. I particularly acknowledge excellent lab management quality of Yashi which made every experiment look a lot easier than otherwise. Rajeshwari has very good hands at molecular biology and a work collaboration with her, helped me greatly in arriving at a conclusion in the xadA story. I learnt a lot from my seniors Laxmi and Sridhar. They were very co-operative when I joined the lab. They set a high standard for the new students in the lab. It's my pleasure to acknowledge Ajay's help. He was a good friend during my professional and non-professional time. I express my gratitude to Subhadeep, Sujatha, and Prabhu for being very co-operative and cordial to me. I thank Hanumanth, Pandu, Anand and Hanif for their kind help.

Puneeta and Jagreet were very nice and understanding friends. I will always remember Ajay, Puneeta and Jagreet for their friendship. I would also like to acknowledge Chetana for her help whenever I needed. I am thankful to Ram,
Bhavana, Suchi, Sindhu and Venkat for providing a loving as well as a scientifically competitive ambience in East wing II floor. I convey my regards to Subbiah, Vijay Bhaskar, Krishna Prasad, and Shyam Sunder for their affection.

Genetics group meeting is something special in CCMB. I am very grateful to Dr J. Gworishankar, Dr D. P. Kasbekar and Dr Imran Siddiqui and other members of the genetics group for critical analysis of my PhD work. I thank Dr Shashidhara, Dr Tushar Vaidya and Dr Jyotshna Dhawan for their good wishes.

I thank Manjula for teaching me how to work with bacteriophages. I thank Nagesh and Mehar Sultana for DNA sequencing and oligonucleotide synthesis respectively. I thank all the groups of CCMB like Reception, Central Monitoring System (CMS), Instrumentation group, Lab services group, Stores, Fine Biochemicals, Administraion, Transport Section, Security and Canteen. I thank Mr Prakash and Mr Mallesh of the Xerox section for helping me during my thesis work. I thank Mr Giridharan of the Digital facility.

I thank all my Ph.D batchmates for helping me in their own unique ways. Prakash and Rana for being consoling and kind, Uma and Malay for being helpful as well as for constructive criticisms. Raja (Rajaram) helped whenever I needed his advise (a person from whom we can learn how to remain happy). Kumar (Kumaran) for going out of his way to help. I acknowledge each of my friends and their kind support.

Rudra's help for starting a PhD career in science is unforgettable. He and Varsha calmed my anxiety on the day of my CCMB interview. Anurag was my non-professional friend with whom I could speak whatever I wanted. Sudhansu's help to me in England is an example of true friendship. Akshya remained very supportive to me like a younger brother. PhD career involve few families whom I greatly acknowledge, those are Mrs/Dr Srikanth Rath, Mrs/Dr Balmukund Mishra, Mrs/Mr Vinod Mishra and Pandurangam Uncle and Aunti.
During my CCMB interview, among the committee members Dr Lalji Singh, Dr Dipankar Chatterjee, Dr Veena K. Parnaik, Dr Ravi Sirdeshmukh and Dr Purnima Bhargava were kind to me. I attribute my selection to their kindness.

Home is the first learning place. My parents (bapa and bou) are the most lovable personalities for me in the world. My existence in the world is because of their stupendous love. My brothers and sisters (Ali dei, Juli dei, Bhai and Tisuni) are extremely lovable. My sister in law (Bhauja) and my both brothers in law (Arun Bhai and Dev Bhai) are very affectionate. Love of my nephews and niece (Kunu, Munu, Guddi and Bapun) are unforgettable and encouraging to do hard work. I was fortunate to have 4 paternal grandparents (Bada Aja, Sana Aja, Bada Maa and Khudi Maa) whom I love and regard a lot. My maternal grandmother (Mamu Maa) is very nice. It is the grandparents' blessings which decide the fate of grandchildren. My regards are for my doting step parents (chikinia bapa and bou).

Among my school and college teachers Sri Bulei Charan Das, Late Sri Prana Krishna Mishra, Mr Tushar Kanti Tripathy, Sri Prabhakar Sahoo, Mr Pramod Kumar Mishra, Mr Jose Mathews and Dr Anil Kumar Tripathy were very inspiring and kind to me.

I am also thankful to two of my till now unknown revered referees who will spend their valuable time for analysing my thesis.

Beautiful things are those which never tires you and acknowledgment is a beautiful thing. The more you write, more you feel there is more to write. Though feelings have no limit but expressions have limits therefore I have to stop.