ACKNOWLEDGEMENTS

Every project has a number of people involved in it directly and indirectly. As the project has reached its final stage, it is time to express my heartfelt gratitude towards all those who are a part of this project. This thesis work would not have been possible without their support and inspiration. Herewith I would like to take this opportunity to express my gratitude to them for their help and support.

First and Foremost, I would like to express my sincere gratitude to my research guide Dr. Sangita D. Kumar for the continuous support of my Ph.D. study and research, for her patience, motivation, enthusiasm, and immense knowledge. Her guidance from the initial to the final level enabled me to develop an understanding of the subject. She devoted her valuable time and effort to help me execute the work in good time.

I am highly indebted to my Co-guide Dr. Ashok K. Pandey for his invaluable help and assistance for the present work. I would not have made it through this process without his guidance. His ideas, enthusiasm and support towards project greatly helped to shape up this research work.

In equal measure, I extend my gratitude to Dr. A.V.R. Reddy, Head Analytical Chemistry, for his wholehearted encouragement and support, without whom it would have been impossible to carry out the work. I express my gratitude towards Dr. B.N. Jagatap, Director, Chemistry Group and Dr. Tulsi Mukherjee, Ex. Director, Chemistry Group, for their support.

I am immensely thankful to Dr. A. Goswami, Head, RCD and Chairman of my Ph.D. doctoral committee, for his support throughout the work. I would also like to thank the
members of my Ph.D. committee: Dr. Lalit Varshney and Dr. N.L. Misra for their valuable suggestions, timely cooperation and guidance.

Words will not be enough to express my gratitude to Dr. (Smt) Sanjukta A. Kumar and Dr. (Smt) Harshala Parab for their assistance in the experimental work and support at each step of my thesis work. Working with them is always a pleasure and a lesson to me. I would also like to thank Dr. R. Verma, Dr. D N Wagh, Dr. Ajish Kumar and Dr. A.K. Tyagi for their kind support during my entire research work.

I am indebted to many of my fellow lab mates, particularly Mrs. N.S. Shenoy, Mrs. Aayushi Dhudwarkar, Mrs. Shailaja Pandey, Dr. Sadananda Das, Dr. Rakesh Shinde, Apurva Naik, and Vivek Chavan for all the precious help and cooperation that they lent to me during my research work. My sincerest thanks are due to Mrs. Juby K Ajish, for providing me the moral support and a soothing hand whenever needed. I, also extend my sincere thanks to all my friends and colleagues of Analytical Chemistry Division for their love and support.

My deepest gratitude goes to my family for their unflagging love, support and encouragement throughout my life. My parents deserve special mention for their support in all my pursuits and their persistent confidence in me. I owe my every achievement to them. I also thank my siblings for their love and support at all the times.

Words fail to express my appreciation to my husband Tanmay for his unconditional love, relentless support and endless patience, especially during the final stages of this Ph.D. I am privileged to have him around me.
Last but not least, I would like to thank everyone, whose contributions were important for the successful realization of this thesis, but I could not mention them personally.

Neha Thakur