

## Acknowledgements

*I sincerely acknowledge my research guide Dr. P. Manikandan for his invaluable guidance, constructive suggestions and support given throughout the course of this investigation.*

*I wish to express my sincere gratitude and indebtedness to Dr. S. B. Halligudi, Dr. R. Nandini Devi and Dr. N. K. Kala Raj for all the help rendered by them in any form during this period.*

*I express my sincere gratitude to Dr. S. Sivasanker, Dr. Rajiv Kumar, Dr. D. Srinivas, Dr. A. P. Singh, Dr. M. K. Dongare, Dr. Veda Ramaswamy, Dr. C. V. V. Satyanarayana, Dr. C. S. Gopinath, Dr. Mirajkar, Dr. T. Raja, Dr. Pardhy, Dr. Deshpande, Dr. Awate, Dr. Belhekar, Dr. Shubhangi, Ms. Agashe, Ms. Jacob, Mr. Niphadkar, Mr. Tejas, Mr. Jha and Ms. Violet, Catalysis Division, National Chemical Laboratory, Pune for their valuable discussions, academic aid and ethical guidance throughout the course of work. I would also like to thank Mr. Purushottaman, Mr. Kashinathan, Mr. Madhu, Mr. Milind, Mr. Katti and other supporting staff of Catalysis Division.*

*I am genuinely thankful to my Lab mates Dr. Sankar, Sreeja, Sankaranarayanan, Tushar, Shashikant, Srikant, Asha, Aany, Reji, Anju, Vineetha and Srinidhi for their cheerful cooperation and affection.*

*I don't have words to express my feelings towards my friends Shanbhag, Shekhar, Dr. Hrishikesh, Dr. Amit, Mahesh, Ankur, Suman, Lakshi, Dr. Vasudev, Naresh, Dr. Prashant and Prasad for their whole hearted love and encouragement throughout my research activity.*

*I would also like to thank all the students in Catalysis Division especially Atul, Ramakant, Srikant, Ankush, Devendra, Sachin, Ganesh, Sivaram, Dr. Rajendra, Pallavi, Neelam, Maitri, Dr. Surekha, Dr. Smita and Dr. Dhanashree for their motivation and fruitful discussions. I have no words to articulate my feelings towards my other friends Kaustubh, Dr. Vivek, Archika, Poorva, Dr. Mahesh, Unmani and Shivani for their unconditional love and unfailing moral support.*

*Finally, I owe my acknowledgements to the University Grants Commission (UGC) for financial assistance in the form of Junior Research Fellowship and Dr. S.*

*Sivaram, Director, National Chemical Laboratory for allowing me to work in the institute and submitting this work in the form of Thesis.*

**Rohit H. Ingle**