Acknowledgements

I would like to take this opportunity to offer my heartfelt thanks to a number of people without whose help and support, this thesis would never have been possible.

I would like to express my deepest gratitude to my esteemed guide, Prof. M.R. Yadav, Head Pharmacy Department, Faculty of Technology and Engineering, The M.S. University of Baroda for his supervision, guidance and for sharing his vast knowledge and experience from the very early stage of this research. His strong belief in science combined with systematic approach has been of great help and inspiration.

I would also like to thank Prof. A. N. Misra, Dean, Faculty of Technology and Engineering, The M. S. University of Baroda, for providing the facilities for research.

I convey my deepest gratitude to Prof. Rajani Giridhar, Co-ordinator QIP cell, Pharmacy Department, for her moral support, valuable guidance and unbound love during the course of the study.

I express my sincere thanks to Prof. (Mrs.) S. J. Rajput and Prof. (Mrs.) Krutika Sawant, Coordinator, G.H. Patel Pharmacy Building, Pharmacy Department, for having provided me with the necessary laboratory facilities and congenial ambience.

I owe my deepest gratitude to Prof. S. H. Mishra, Dr. Hetal Thakkar, Mr. S.P. Rathod for their valuable suggestions and help whenever sought for.

I extend my sincere thanks to Dr. Anilkumar Misra, Director, Division of Cyclotron and Radiopharmaceutical sciences Institute of Nuclear Medicine and Allied Sciences (INMAS)-New Delhi for giving permission to carry out my Radiolabeling and Biodistribution study and Mrs. Krishna Chuttani, Technical officer, INMAS for their useful suggestions during my work.

I am thankful to Mr. Hitesh Maheshwari Vice-President, Macleods Pharmaceuticals for providing gift samples of various NSAIDs. I also acknowledge the help provided in term of gifts samples of various lipids by Lipoid GmbH Ltd, Germany.

I am thankful to Director, SICART, Vallabh Vidhiyanagar for carrying out SEM, TEM studies. Sun Pharmaceutical Advanced research Centre (SPARC), Vadodara is also acknowledged for help rendering in carrying out Cryo-TEM studies. I am thankful to the Head, Metallurgy Department, The M. S. University of Baroda and Dr. Vandana Rao, Lecturer, Department of Mettalurgy, The M. S. University of Baroda studies for carrying out SEM studies.

I wish to express my heartiest thanks to Prof. R, H Parikh, Principal, Ramanbhai Patel College of Pharmacy and Director, Dr K.C Patel R&D Centre, CHARUSAT, Changa for their help in carrying out XRP studies.

I am thankful to Prof. S.R. Shah, Chemistry Department, The M.S. University of Baroda for helping me to carry out the NMR analysis of samples.
I am also thankful to Blood Bank, S.S.G. Hospital Baroda for providing serum samples for my research work.

I wish to express my heartiest thanks to my dear friends Hardik Gandhi, Anshuman Sinha and Ashish for the help provided by him during in vivo and molecular modeling experiments. I wholeheartedly thank him for their tireless efforts in all these studies without any constraint.

I gratefully acknowledge Prashant Murumkar, Prashant Naik, Vishal Zambre and Sable sir for their support and suggestions at the hours of need.

I would also like to extend my appreciation to my colleagues and friends, especially Yogish, Riyaj, Palash, Mahesh, Neetesh, Mayank, Manjappa, Nirav, Kiran, Anand, Premal, Mukesh, Amit, Kailash, Rushabh, Pradip, Swapnil, Vijay Chudirwal and all others, whose name I might be missing for their advice and their willingness to share their bright thoughts with me, which were very fruitful for shaping up my ideas and research and for their support and encouragement.

I take this opportunity to express my thanks to non-teaching staff members at Pharmacy department, Kalabhavan and Pharmacy Department, G. H. Patel Building for their kind cooperation.

I take this opportunity to sincerely thank the All India Council for Technical Education (AICTE), New Delhi for the financial support in term of National Doctoral Fellowship during this course.

I deeply thank my Brother and Sisters for their never-ending love and support throughout the years and their encouragement and confidence in me.

This acknowledgement will be incomplete without appreciating the moral support, inspiration and constant encouragement of my wife Pranita who has helped me in her own unique way during thesis writing.

Finally, I would like to thank everybody who was important to the successful realization of thesis, as well as expressing my apology that I could not mention personally one by one.

Vijay Pawar