ACKNOWLEDGMENT

I would like to express my deep gratitude towards Dr. Bhushan Patwardhan and Dr. Arvind Chopra, for their guidance, encouragement and unconditional support during the course of my PhD work. They have been constant sources of inspiration for me, and have been instrumental in seeing my research endeavors come to fruition. I will forever be indebted to them.

While working under the able guidance of Dr. Kalpana Joshi, I learnt about precision in procedures, and about making intelligent observations during experimental protocol. My heartfelt thanks go out to her.

I would like to acknowledge and thank Dr. Anita Kar, Director, Interdisciplinary School of Health Sciences, University of Pune for providing all the required facilities for my research.

I want to express my gratitude towards Ms. Anuradha Venugopalan and Ms. Manjit Saluja of Center for Rheumatic Disease (CRD), Pune for all their invaluable suggestions and encouragement.

I am grateful to Dr. Arvind Chopra and all the clinical and para-medical staff at CRD, Pune for helping me in patient recruitment, teaching patient care and guiding me in data entry and analysis. Special thanks to volunteers and patients. Without their help, this work would not have been possible.

I thank Dr. Alex Hankey, SVYASA, Bangalore, Dr. Girish Tillu, CDAC, Pune for their valuable guidance and support in Prakriti analysis; Dr. Ashok D. B. Vaidya, Dr. Ashok Amonkar, Dr. Rama Vaidya, Dr. Ashwinikumar Raut, Kasturba Health Society, Mumbai for pharmacokinetic studies; Dr. C Godbole, Septech, Mumbai for HPLC and post-column derivatization; Dr. Prashant Dhakephalkar, ARI, Pune for their guidance in PCR, Dr. Anandwardhan Hardikar, National Center for Cell Sciences, Pune; Ms. Savita Bosekar, Mr. Shailendra Kawade, Applied Biosystems, Thane for real time – PCR studies.

I would like to take this opportunity to thank Dr. Anjali Radkar for teaching and guiding me in statistical data analysis.
I thank Dr. Partha Majumder, Indian Statistical Institute, Kolkatta; Dr. Sanjeev Sarmukadam, B. J. Pune; Dr. Mihir Arjunwadkar, Center for Modelling Studies (CMS), Pune; Dr. Sameet Mehta, National Center for Cell Sciences, Pune; Dr. S Paranjape and Dr. Mohan Kale, Mathematics and Statistics Department, Pune for their valuable suggestions in data analysis and statistics.

I would like to give a word of appreciation to Ms. Pooja Shintre for her technical help in all parts of this endeavor. A special thanks to Mr. Amrutesh Puranik, PhD student, ISHS for the training in pharmacokinetics, HPLC, data analysis and all the technical guidance throughout the work.

I thank Dr. Mugdha Lele, for her critical comments and Vinita for type setting; Mrs. Takalkar (PhD Section), Mrs. Padhye and Mrs. Mane (Finance Section) and the entire staff of Administration, Accounts, and Maintenance of University of Pune. I want to specially thank teaching faculty Dr. Aarti Kaulgekar, Ms. Angeline Jeyakumar, Ms. Shilpa Shirole and non-teaching staff Mrs. Dongre, Mr. Deepak Narke, Mrs. Wange, Mr. Kulkarni, Pandurang mama, Shedge mama, Deepa, Tanaji all the other staff of School of Health Sciences for their kind cooperation during the tenure of this work.

For providing light hearted moments and a stimulating work environment that was conducive to research, I want to thank my labmates and colleagues: Smruti Apte, Sandeep Kumar, Vasundhara, Dr. Preeti, Dr. Dnyeshwar, Dr. Manish, Dada Patil, Sanjay, Abhijeet Kale, Sachin Kadam, Sachin Kale, Aditi Chiplunkar, Yashendra Arya, Prinyanka, Amit, Jose, Ravi Ghorpade, Dr. Sheetal Salvi, Dr. Swati Shukla, Supriya, Madhura, Teju, Namita and hostel friends Dr. Aditi Gawade, Dr. Kanchan Samant, Medha.

For their financial support during the tenure of this work, I want to acknowledge and thank The Council of Scientific and Industrial Research (Government of India) and NMITLI.

Last but not the least, I am highly indebted to my family, in-laws, Vinita, Sachin and neighbors without whose encouragement and unstinted support, this work would not have materialized.

Ms. Yogita Anand Ghodke