ACKNOWLEDGEMENTS

LIFE IS FULL OF COMPLICATIONS. EVEN WHEN YOUR'RE BORN, THERE'S A STRING ATTACHED.

- JACQUI BRONTS.

I SUBMIT THIS THESIS WITH THE BLESSINGS OF THE ALMIGHTY.

The process of earning a Ph.D involves a whole lot more than just the academic requirements. Contributions—major and minor from the numerous people you interact contribute to the successful completion of that event. Amongst them some of whom you remember, some you forget, but all are equally important for the making of this event. My sincere gratitude to one and all.

First and foremost, I would like to express my whole-hearted gratitude, respect and love for my Guide, Dr. Mrs. Anjana Desai. She has been instrumental in developing my interest in the field of research. She has been open and receptive to discussions, considerate, compassionate and helpful like a friend. Her constant words of encouragement has given me the strength to see positively at times when nothing seemed to work. Thanks madam for everything.

My sincerest thanks to Prof. B. B. Chattoo, Head of Department of Microbiology and Biotechnology Centre and Prof. K.K. Rao, former Head of Department of Microbiology and Biotechnology Centre, for providing necessary laboratory facilities required for the successful completion of this work.

Fellowships granted by the Department of Biotechnology (JRF), Government of India and CSIR, New Delhi (SRF) are duly acknowledged.

Prof. Surekha Devi, Chemistry Dept. M.S. U. Baroda and her Ph. D student Mr. Ishit M. Thakore deserve special thanks for collaborating a part of my Ph.D work on starch-based biodegradable polymers.

Help rendered by Dr. P. V. C. Rao, NMR lab, R & D, IPCL, Baroda for helping me with the $^1$HNMR and Dr. U. Dayal, Polymer Division, IPCL, Baroda, for the GPC analysis is duly acknowledged.

I am also grateful to Dr. Vijay Chauthaiwala, Head, Cellular and Molecular Biology and his lab members, Torrent Pharmaceuticals Ltd., Ahmedabad, for giving me an opportunity to work in their esteemed laboratory. Working there gave me the much-sought exposure to the current trends in Molecular biology. Thanks to all the members of CMB unit for making my stay and experience working there informative and memorable one.
My whole hearted gratitude to Dr. Dieter Jendrossek, Institute of Microbiology, University of Stuttgart, Stuttgart, for having carried out part of the substrate specificity studies and the Western Blot experiments in his lab.

My sincere thanks to Dr. J. D. Desai, Sr. Manager, Environment and Ecology, IPCL, Baroda for his invaluable suggestions rendered during the tenure of this work and also for collaborating a review article with me which helped me compile latest information in the area of my research.

My whole hearted gratitude to all my teachers especially, Prof. Chhatpar, Prof. A.K. Shah, Dr. Archana Gayatri, Dr. Acharya, Dr. Naresh Kumar, Dr. Beena Chandani and Dr. Mrunalini Nair - whose constructive criticisms and timely valuable suggestions has helped me make this piece of work better and better. Their approachable nature and patient listening have enabled me to tide over a lot of practical difficulties.

I am indebted to Dr. Anuradha Nerurkar for all the help and moral support extended through the entire course of my work.

I owe a big thanks to Mr. Vivek Yellore who’s been a great help throughout this work, right from day one.

A word of thanks to all my lab-mates- Sangeeta, Arpana, Tara madam, Snehal and Smita who have been witness to the struggles and triumphs of my Ph. D work. Thanks a lot for sharing my day-to-day experiences, both personal and academic.

Two of my best friends -Snehal and Reena deserve special mention. Thanks for being there for me.

A big thanks to all my other colleagues- Swati, Arpana, Hanson, Dharmendra, Krishna, Dr. Ingle, Smruti, Anand and Brahadish. The time spent with them in the department especially with Swati, Anand and Brahadish are the most memorable ones. Not only the shop-talk but also their strong bond of friendship has helped me overcome the most difficult times during my tenure.

A word of thanks to Karunakaran (Biochemistry Dept.), Ismail, Anuradha and Shireen (chemistry Dept.) for maintaining the inter-departmental cordial relationship. Your help is highly acknowledged.

My sincere thanks also to the non-technical staff for their prompt assistance in general and laboratory matters in particular.

My sincere thanks to Mr. Shirish Nagarkar for helping me in the preparation of this thesis and also for all other assistance in administrative matters rendered during the course of this study.
The help rendered by Mr. Kameswara Rao, one of our friends, in the preparation of some of the figures in the thesis is highly acknowledged.

I acknowledge the help rendered by Purvi, Antiksha, Kruti, Ruchir and Ashima during the course of this work.

*A. fumigatus* and starch degraders- thanks for being co-operative throughout this project.

And though mentioned last, yet, definitely the most important are my feelings of gratitude to my dearest parents, *I owe you much more than words can say!!* But for your constant strong belief in my abilities, encouragement, unstinted love, unrelenting support and blessings, achieving this task would not have been possible!! My sister, Jyothi who just by looking up to me and by appreciating and criticising my workencouraged me to aim higher and do my best. Some very special people who need mention are my dearest Father-in-law whose blessings, much needed support, understanding, love and steadfast encouragement saw me through the final stages of the successful completion of this long cherished ambition. Blessings of my dearest Mother-in-law was always there for me.

To the one person in my life, no words can express my feelings - my beloved husband Shivakumar, whos always been there for me from the moment he came into my life. He has helped me believe in myself, strive for excellence, aim for the stars, kept up my confidence and zeal, in short, make a better me. Thanks for just being there for me, without you I could n't have achieved this and *I owe this gift to you.*

--- Srinidya Shivakumar