Acknowledgements

I wish to record my sincere gratitude to my Research supervisor Prof. C. Ayyanna, Director, Department of Biotechnology, Al-Ameer College of Engineering and Information Technology, Gudilova, Anandapuram Visakhapatnam, for his valuable guidance, and daily supervision in the scientific field and constant encouragement throughout the course of research work and preparation of the thesis. I learned a lot from him and also supported by him during my research work and the application of fermenter and a new Statistica software.

My sincere thanks to Prof. Dr. K.R.S. Sambasiva Rao, Chairman, Board of Studies of biotechnology, (ANU) and Asst Prof. Dr.P.Sudhakar, Co-Coordinator, Department of Biotechnology, Acharya Nagarjuna University (ANU) for their guidance and suggestions.

I am deeply indebted to Professor M. Narasimha Rao, Sri M.K. Alipasha and Dr. Satyaveni, who provided me lab facilities.

It is a pleasure to work together with the group of Department of biotechnology. I am grateful to a lot to Asst. Prof. R. Gopinadh of Gandhi Institute of Technology And Management Studies (GITAM, University) and Dr. B. Srinivasa Rao of Al-ameer college of engineering, A. Ravi Varma (Department of biotechnology, ANU). I would like to express my appreciation to all my colleagues and laboratory assistants.

I am greatly indebted to my parents and my brother D.R.N. Banerjee who remain providing me a constant source of strength throughout my career.

Dovari Surendra Nadh Benerji
Dedicated

to my

Parents and Teachers