

Acknowledgements

I owe my first and foremost, love and gratitude to the Almighty Lord Venkateswara for every blessing he has showered on me.

*I take this opportunity to express my heartfelt gratitude to my research supervisor **Dr. O. Vijaya Sarathi Reddy**, Professor & Head, Dept. of Biochemistry, for his constant motivation and support throughout the course of this investigation. His immense interest in science and his enthusiastic attitude will be cherished by me throughout my research carrier and through all walks of the life.*

*I express my deep sense of gratitude to my Teachers **Dr. K. Thyagaraju**, Professor & Coordinator, M-Pharmacy, **Dr. Ch. Appa Rao**, Professor & Head, Dept. of Biotechnology, **Dr. S.D.S. Murthy**, Professor & Chairman, Board of studies and **Dr. M. Balaji**, Assistant Professor, of the Dept. of Biochemistry for their support and encouragement during the course of my research work. I also thank **Prof. B. Anuradha**, Dept. of ECE, S.V.U College of Engineering for her suggestions. I am thankful to all the **non-teaching**, administrative and library staff of Sri Venkateswara University for their extended help and unconditional support.*

*I would like to thank **Dr. S. C. Basappa**, former deputy director, CFTRI, Mysore for his continual support, suggestions and critical comments on the thesis. I extend my special thanks to **Dr. Bhavani Shankar**, Plant manager, Bacardi-Martini (I) Pvt. Ltd, for their help in the in GC-FID.*

*I am deeply obliged to **Dr. Arun Sharma**, Head, Food Technology Division, BARC, Mumbai and **Dr. Prasad S Variyar**, Scientific Officer, Food Technology Division, BARC, Mumbai, for their guidance and support. I also thank them for their help in some of the experiments.*

*My deeply indebted thanks to my senior **Dr. S. Vara Kumar (Mumbai)**, who has inspired me right from joining of my Ph.D till my completion. I would like to express my sincere thanks for great help in carrying research work. The care and the progress monitored during my research work by him absolutely marvelous and outstanding.*

*I would like to convey a sincere and heartfelt thank to my seniors **Dr. S.A. Nabi, Dr. P. Ramamohan (Taiwan), Dr. Y. Sudheer Kumar (Canada), Dr. K. Himakar Reddy (South Africa), Dr. P. Pradeep (Korea), Dr. K.P. Srinivas, Dr. S.V. Prasad, Dr. S. Swapna, and Dr. Y. Prabhakar** for their constant support and ever-ready to help attitude. I shall always remember all those cheerful moments spent with them.*

*Diction is inadequate to express my profound sense of gratitude to **Dr. B.P Dass, Head of the dept of Biochemistry, Rao's degree and P.G.College, Nellore**, for his help in joining the Ph.D and for constant urging, encouragement and guidance.*

*I wish to thank **Smt. Silpa, Smt. Sunanda and Smt. Gayathri, V.R.I.P.S, Nellore** for their constant encouragement about my research work.*

*I would like to convey a sincere and heartfelt thank to my friends **Mr. Rajesh Natava, Mr. K. Madhu, Mr. Naresh, Mr. P. Ramesh (Late), Mr. G. Gurava Reddy, Mr. S.K. Jaleel, Mr. Raju, Mr. Venka Reddy, Mr. Dharani, Mr. Rajasekhar, Mr. M. Suresh, Mr. Kishore, Mr. Srikanth and Mr. Praveen (Virology)** for their moral, emotional support and continuous help during the course of my work.*

*I express my heartfelt thanks for the suggestions and help rendered by my lab mates **Mr. P. Vijay Kumar, Mr. M. Sreedharamurthy, Mr. B. Ramesh, Mr. B. Vijay Kumar, Mr. S. Naga Sivudu, Mr. N. Venu Gopal, Mr. G. Srikanth, Miss Haarika and Mr. K. Uma Mahesh.***

*I am thankful to other lab scholars **AyyaRaju, Tilak, Jyothi Kumar, Subhan Ali, Dr. M.V. Swamy, Suman, Peddanna, Arif, Adam, Gunasekhar, Srinivasulu, Ramgopal, Anji, Hema, Ramya, Sarita, Meena, Divya, Kamala, Pallavi, Bhanumathi, Sreevani, Praveena, Namratha Rani, Rajasekhar, Eeswari, Jyothsna, and Hanuma** for the cheerful atmosphere they create in the department.*

*I am extremely thankful to **Mr. Sumith, Mr. Vivekananda, Mr. Chaturbhuj, Mrs. Rupali, Mrs. Snehal, Mrs. Pooja, Miss. Aprajita and Mrs. Jyothi, S/0'S, FTD, BARC, Mumbai** for their help and support to carryout HPLC, GC-MS analysis.*

*Credit goes to **Board of Research in Nuclear Sciences (BRNS), BARC, Government of India**, for extending financial assistance in the form of JRF, which helped me to pursue my goal with diligence.*

*Diction is not enough to record my gratitude to my maternal grand parents **Sri. V. Veeraiah, Smt. V. Adilakshamma (Late)** and **V. Veera Raghavulu**, who constantly encouraged pursuing higher education, and my beloved parents, **Sri. K. Venkata Rao (Late)** & **Smt. K. Maheswari** and **Sri. C. Neelakantam & Smt. C. Rajaeswari** for their acts of loving care, sacrifice, concern and cheerful cooperation throughout my educational career.*

*I feel pride and privilege for my beloved uncles **Mr. V. Veera Raghavulu (Late)**, **Mr. V. Subba Rao (Late)**, **Mr. V. Ramesh**, **Mr. V.V. Sesaiyah**, **Mr. VV. Chelamaiah** and **Mr. V. Maheswarao** who proved a symbol of sacrifice. Without their love, support and cooperation it would have remained as an unfulfilled dream. I consider myself blessed to their son-in-law and for which I am extremely grateful to the Almighty.*

*I wish to express my heartfelt gratitude to my aunties **Smt. V. Savitri, Smt. V. Bhavani, Smt. V. Salija** and **Smt. V. Vijaya**; my sister-in-law **Ms. V. Sravani lakshmi**; my sisters **Smt. C. Sireesha Rani** and **Ms. Sree Latha**; my brother-in-laws **Mr. B. Indrasena, Mr. Vinod, Mr. Rajesh, Mr. Yuvaraju, Mr. Sumanth, Susanth, Dheeraj, Chinnu, Sudheer, Teju** for their selfless love, constant encouragement, moral & eternal support and patience in all my endeavours. I profusely thank them for all the benevolence they have showered upon me which is the main source of inspiration behind my Ph.D. work.*

*I convey my special thanks to my best half **K. Ratna Prabha** who always encourages my professional career and gives me mental support.*

*I would like to thank **Mr. Murali (Late), Mr. Raghu, Mr. Guna Sekhar, Mr. Hari, Mr. Chitanya** and **Smt. Amuda** non teaching staff, Department of Biochemistry, S.V.University, Tirupati for their help.*

Last but not least, I extend my heartfelt thanks, deep sense of gratitude to all those who might not have been mentioned here in haste, but their deeds were greater than words and their contributions and assistance are engraved in the mind and heart.

NARESH KONDAPALLI... 