ACKNOWLEDGEMENT

With great humility, I place this research at the feet of the Almighty. I prostrate before Him, for His eternal guidance and providing me with sufficient intrinsic and extrinsic strength.

I have no words to transform my sense of gratitude to Dr. R. Palaniappan, my Guide and Dr. K. Ramasamy, co-guide for their invaluable guidance to me. Dr. R. Palaniappan was not merely a guide, but a motivating force, who kindled the flame of research latent in me. Dr. K. Ramasamy was a beacon of inspiration without whose encouragement, technical and moral support this thesis would not have come into existence. His unstinting support helped me scale many hurdles. I take this opportunity to sincerely acknowledge his fathomless assistance to me.

I thank Prof. K. H. Narayanan, Secretary, the Principal and the management of Sri Paramakalyani College, Alwarkurichi, for providing and permitting me to utilize the facilities to carry out my research work.

The crucial aspect of this research work that involved GC analysis was carried out at Sri A. M. M. Murugappa Chettiar Research Centre (MCRC), Chennai. I would like to express my deep sense of gratitude to Dr. T. M. Vatsala, Director, MCRC for permitting me to use the facilities at their institute, without which this work would have been incomplete. I also place on record my sincere thanks to Mr. C. Meenakshi Sundaram.
Mr. C. Mohanraj and Mr. A. Manimaran. Research scholars, MCRC, for their untiring help.

I would like to acknowledge the technical support rendered by Mr. P. Sathish and Miss. Kavitha. research scholars, Anna University, Chennai with respect to gel documentations.

At this juncture, I would like to recall the scientific clarifications provided by Dr. M. Radosevich. University of Delaware, USA and Dr. M. J. Sadowsky. University of Minnesota, USA, which were vital in fine tuning this thesis.

I would like to cite the contributions made by Dr. Paul Murugan. Scientist, Rajiv Gandhi Institute of Biotechnology, Trivandrum by way of suggestions pertaining to degradation studies and molecular analysis.

I wish to thank Dr. S. Ramesh. my colleague for his constant encouragement, wise counsel and constructive criticisms. Dr. V. Perumal the Director of Physical Education, evinced keen interest in this work. His contributions towards statistical analysis and the amount of time and energy expended by him in this context require special mention.

In any educational institution. students and faculty are complementary to each other. True to these words, my students have contributed to this thesis in more than one way. Acknowledging their individual contributions would run to pages. I wish to express my sincere appreciation to all of them for their help, and involvement. More specifically, I would like to record the active involvement of my students J. S. Arif., A. S. Sathish Kumar and
R. Sundaralingam in this research work especially during the compilation of this thesis.

I would like to thank Mr. Ulagavel, Saraswathi Computers, Tiruchendur, for his assistance in the statistical treatment of the experimental data.

I take pride in acknowledging the financial support provided by the Tamil Nadu State Council for Science and Technology (TNSCST), Chennai, for having awarded me the Young Scientist fellowship.

I wish to record the emotional and moral support extended by my mother, wife, son, sister, brothers and their families and for providing conducive environment to enable me to pursue this research work to the best of my ability. I thank all of them from the bottom of my heart.

Innumerable friends, colleagues and well wishers were involved in this work directly or indirectly. I thank one and all for their generous help that has made this research work a reality.

Neat presentation leaves a lasting impression. The credit should go to Mr. C. T. Kannan, and his staff at ABHI DTP, Tirunelveli for their sincere and meticulous efforts in transforming all my thoughts and perceptions into documents, that stands in the form of this thesis today.