ACKNOWLEDGEMENT

The author wish first to thank his research supervisor, Dr. R. Gopalakrishnan, Lecturer, Department of Physics, Anna University, Chennai, for his benevolence and affirm guidance. His interest and exuberance have driven the author to do the best in lab.

The author place a special word of gratitude to his doctoral committee members, Prof. P. Ramasamy, Dean (Research), SSNCE, Dr. R. Dhanasekaran, Professor, Crystal Growth Centre, Anna University, Chennai, for their words of encouragement. The author is grateful to Dr. V. Krishnakumar, Professor and Head, Department of Physics, Periyar University, Salem, for having inculcated an unending zeal in his academic pursuits. The author thank Dr. P.K. Palanisamy, Professor and Head, Department of Physics, Anna University, Chennai, for the continuous support extended by him.

The author sincerely express his thanks to the Council of Scientific and Industrial Research (CSIR), New Delhi, for having permitted the author to work in the project as Senior Research Fellow. The author has pleasure to thank Dr. R. Nagalakshmi, Visiting Scientist, TIFR, Mumbai for her scholarly assistance, encouragement and cordiality throughout the course of his research.

The author is glad to express his thanks to his friends Mr. T. Kanagasekaran, Ms. P. Mythili, Mr. A. Aravindan, Mrs. S. Stella Mary, Mrs. S. Shahil Kirupavathy, Mr. T.P. Srinivasan whose whole hearted support and encouragement revitalized the authors spirits throughout his research and his research seniors Dr. R. Ramesh Babu, Dr. N. Vijayan, Dr. M. Gunasekaran, Mr. K. Sethuraman. The author wish to record his appreciation of the assistance rendered by his contemporary research friends. The author is deeply indebted to his Parents for all that what he is and he has.

P. SRINIVASAN