ACKNOWLEDGEMENT

In any major undertaking such as doing Ph.D. work, there are always people who offer imperative support, encouragement and recommendation. This is an effort to pay compliment to many people who assisted me to accomplish this goal. This study would not have been successful without the immense help of all those who assisted me to grow and develop my knowledge. There are many people who have shared my journey and assisted me during my research period. I cannot express my gratitude to all and it is not possible to list here all the people that I would like to appreciate. By this I want to acknowledge all those, who stood with me, throughout this journey towards my Ph.D thesis and here is the acknowledgement.

First, let me thank God, the almighty, for the opportunity He gave me to study, to research and to write this dissertation. Thank God, my outmost thanks, for giving me the ability, the strength, attitude and motivation through this research and to complete this work.

I wish to express my deep sense of gratitude to my supervisor, Dr. P. Selvarajan M.Sc., M.Tech., Ph.D., PGDCA, Associate Professor of Physics, Aditanar College of Arts and Science, Tiruchendur, India for accepting me as a Ph.D student. I am sincerely grateful to my guide for guidance, wisdom and specially the endless patience in dealing with me throughout research period.

I am grateful to the principal, Dr. A. Meenakshi Sundara Rajan, S.T. Hindu College, Nagercoil, Prof. C. Dennison, HOD of Physics and Research Centre, S.T. Hindu College, Nagercoil, Dr. C.K. Mahadevan, Associate Professor in Physics and Research Centre, S.T Hindu College, Nagercoil for their generous help and support rendered to me during the research work.

I wish to extend my thanks to the Management of S.T. Hindu College, Nagercoil and Aditanar College of Arts and Science, Tiruchendur for having provided me with all the
necessary equipments and all the facilities for me to complete this work. I wish to express my deepest gratitude to the Management of Infant Jesus group of Engineering Colleges, Tirunelveli for their support and help. I also thank the authorities of St. Joseph’s College, Trichy, Sophisticated Test and Instrumentation Centre, Cochin University of Science and Technology, Cochin, National institute for Interdisciplinary Science and Technology, Papanamcode, Trivandrum, School of Physics, M.K. University, Madurai and Crescent Engineering College, Chennai for their support and help for the characterization of the crystals.

My deep thanks to Prof. A.S.J. Lucia rose, prof. S.Lincy and Prof. D.Jencyline for their contribution and helpful discussions. I also wish to express my thanks to Ms.D. Shanthi, Ms. Hema Durga, Mr. Glorium Arulraj, Research Scholars, Aditanar College, Tiruchendur who helped me a lot during my research period. I am grateful to all my friends, colleagues and the staff (past and present) at Infant Jesus group of engineering colleges (IJCE), especially in Physics and Chemistry & English Departments for their co-operation in creating a great working environment for my work. No words I can find to express my thanks to my husband Mr. S. Muthuvel murugan, my son M. krishanth and to my parents for their inexhaustible support and immense patience during three years of my Ph.D. study. Without their patience, help and support, I could not fulfill my work.

I also thank the staff members of Surya Computers, Tiruchendur for processing and printing this thesis. Finally, I express my sincere thanks to all those who have helped me in many ways to complete task.

N.BALASUNDARI