Acknowledgements

After completion of my research work, I can not keep myself away from those beloved and respected persons who have helped me to complete this work.

I take this opportunity to express my deep sense of gratitude to my guide Prof. (Miss) U. H. Patel under whose supervision the present work has been carried out. I am extremely grateful to her for providing me constant assistance, constructive suggestions and continuous encouragement at every stage till the completion of this work.

I express my heartfelt thanks to Dr. C. G. Dave and his research students Mr. Hetal C. Shah, Mrs. Vaishali Shah, Mr. Dhaval Shah, Mr. Hardik Joshipura, Ms. Cicly Augstine and Ms. Neha Thaker of Organic Syntheses Laboratory, M. G. Science Institute, Ahmedabad for their collaborative work.

My thanks are also due to Prof. A. R. Jani, Head, Department of Physics for providing me an excellent facility to work in the department. I am also thankful to all the teaching and non-teaching staff members of Physics Department, Sardar Patel University for their co-operation and help received from time to time. I also appreciate the kind co-operation and help received from University Science and Instrumentation Centre (USIC), Sardar Patel University.

I am grateful to my college authority, Principal Dr. K. N. Desai, Head, Department and colleagues of Bhartiya Vidya Bhavan's, Sheth R. A. College of Science, Ahmedabad for providing me the academic encouragement through the Teacher Fellowship Award in IXth U.G.C.
plan period. My sincere thanks is also due to my colleague Dr. Atul K. Shah for his continuous encouragement and assistance for the Teacher Fellowship Award.

I am also thankful to Dr. N. K. Jain (Joint Secretary) and Dr. E. Srinivas (Education Officer) of U.G.C. (WRO), Pune for granting the Teacher Fellowship Award during the IXth plan period and to provide the necessary financial assistance for the research work.

I am also thankful to Dr. Suresh E., X-ray Laboratory, CSMCRI, Bhavnagar and Dr. Babu Varghese of X-ray Laboratory, RSIC, I.I.T. Madras, Chennai for their useful help in the intensity data collection of single crystals.

My sincere thanks are due to my friends, relatives and research colleagues Mr. Rakesh Sharma, Mr. Bharat Patel, Mr. Pinal Patel, Mr. Rajesh Modh, Mr. Bhargav Jotani and Mr. Ruchik Maradiya for their continuous help and co-operation throughout the work.

I am indebted to my wife Asha, daughters Akanksha and Riddhi and my parents for allowing me to keep away from social routines from time to time during the course of work.

November 2002

[ Mukesh M. Jotani ]