

ACKNOWLEDGEMENTS

This journey of research work was started in 2005 and finally I am going to submit my Ph.D thesis this year. This work would not have been successfully completed without the support, help, guidance and blessings of my supervisor. I start by expressing my sincere thanks and gratitude to my supervisor Prof. P. K. Mandal, for his supervision and constant help throughout the period of my research work, I am very much grateful for his valuable guidance, advice and supervision in each and every step of experimental works, results and discussions.

I express my heartfelt gratitude to Prof. W. Haase, Institute of Physical Chemistry, Darmstadt University of Technology, D-64287, Germany for supplying most of the liquid crystal samples of good quality and giving me an opportunity to work in his laboratory for about a month. I also like to thank him for invaluable suggestions.

A large debt of gratitude is owed to Prof. R. Dabrowski, Military University of Technology, Warsaw, Poland for supplying some of the liquid crystal samples of good quality and also for invaluable suggestions.

I also express my sincere thanks to Dr. K. Goubitz and Prof. H. Schenk, Crystallography Laboratory, University of Amsterdam, Amsterdam, the Netherlands and Dr. S. J. Prathap and Prof. T. N. Guru Row, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore – 560012, India for their help in crystallographic analysis.

I must not forget to thank and acknowledge Mrs. S. Biswas, Dr. P. Sarkar, Dr. B.R. Jaishi, Department of physics, University of North Bengal and Dr. Purak Das, Department of Chemistry, University of North Bengal, Senior researchers in the laboratory, for their kind cooperation and helpful assistance. I am thankful to Mr. K. C. Dey, Mr. D. Sinha, Mrs. S. Barman, Mr. D. Goswami and Mr. A. Debnath, Department of physics, University of North Bengal, present Ph.D. students in the laboratory, for their cooperation.

I have been lucky enough to get the help of Mr. Subrata Hazra and Mr. Lubai Hansda for the preparation of new experimental set up in the laboratory.

The staff members ofUSIC are gratefully acknowledged for their help in constructing and fabricating the different parts of experimental set up.

Nothing can be accomplished without family support. My sincere thanks to my wife, daughter, parents and other members for encouraging me to complete the Ph.D. work.

Last, but not the least, my sincere thanks to the Head, Department of Physics, North Bengal University for his kind co-operation. I express my thanks to all the teaching and non-teaching staffs, research scholars of the Physics Department, NBU.

Place: University of North Bengal

Date: July 2013

Sripada Halder
(SRIPADA HALDAR)