ACKNOWLEDGEMENTS

It gives me great pleasure to express my feelings of indebtedness and deep sense of gratitude to Prof. T.P. Singh for his excellent and thorough guidance during my research career. I feel proud of submitting my Ph.D thesis under his guidance.

I am extremely thankful to Prof. M.K. Agarwal, the Head of the Department of Physics for his constant encouragement as well as for providing me the necessary facilities to carry out the work.

I am equally grateful to Prof. S.M. Patel, the Head of USIC for keeping the X-ray equipments round the clock in working conditions. No less gratitude is due to Dr. T.C. Patel for his ready help throughout the work.

The invaluable and timely help received from Dr. R.S. Tyagi, S. Kailash, Dr. Haridas, Haresh, Punit, Himanshu, Sriram, Sunil, Mrigank which gave the thesis a final form, is gratefully acknowledged. I acknowledge the warm friendship of Mohan Prabhu and M. Ramana.

The innumerable list of the others, who helped me in one way or other to complete the work is too large to enumerate. I am gratefully acknowledging their help. My special thanks are due to Prof. A.R Patel, Dr. A.K Roy Prof M. S Joshi and Ashraf Ali.

Thanks to the kind and cooperative staff of Computer centers of S.P and M.S Universities with a special mention of Bhagwanbhai.

Grateful thanks to Prof. H. Schenk, of Netherlands for providing the X-ray diffractometer data of the 1:1 complex of sulfadimidine and salicylic acid.

Last but not the least, the huge debt of gratitude I owe to my family members - parents, brother and sisters (Basu and Rashmi), who remained with me during all the crucial moments is beyond expression. My heartfelt thanks to them.

My thanks are due to CSIR, India for financial support.

URMILAH.PATEL