

## ACKNOWLEDGEMENTS

I would like thank Board of Nuclear Sciences, BRNS, Project. No. 2007/37/20/BRNS/917, BARC, Mumbai, for the financial assistance. I am also thankful to DST INSPIRE fellowship (IF 110322), New Delhi for the financial assistance.

I avail this opportunity to render my sincere thanks to Prof. B. V. Kamath, Head Department of Chemistry, M. S. University of Baroda, Vadodara for providing Infrastructure facility.

I am also thankful to the following persons for helping me in different stages during the research.

	<b>Support</b>	<b>University / Institute</b>
Dr. Vandana Rao	SEM and EDS analysis	Metallurgy Department, M. S. University of Baroda.
Dr. B. S. Chakraborty	Calcination	Applied Physics Department, M. S. University of Baroda.
Dr. Rakshvir Jasra	BET Surface area measurement	Reliance Group of Industries, Vadodara
Prof. Shobhana .K. Menon	GC-MS	Chemistry Department, Gujarat University, Ahmedabad.

### **Sophisticated Analytical Instrument Facility (SAIF)**

CSMCRI, Bhavnagar	BET Surface area measurement
IISc, Bangalore	$^{31}\text{P}$ , $^{29}\text{Si}$ MAS NMR
SAIF, IIT Mumbai	TEM
SAIF, NEHU, Shillong	TEM

I wish to express my sincere gratitude to my seniors, Dr.Pankaj Sharma, Dr.Nikunj Bhatt, Dr.Pargati Shringarpure-Joshi, for helping me in all the difficulties during the research period. I would also like to thank my colleagues, Mr. Ketan Patel, Mr. Soyeb Khan Pathan, Mr. Nilesh Narkhede and Ms. Sukriti Singh for their support and co-operation during the work.

I am also thankful to all non-teaching staff of the Chemistry Department for their kind co-operation towards me throughout my research work.

It gives me great pleasure to thank my parents, brothers, sisters and my in-laws, for their love, tremendous patience, trust and encouragement. Words fall short in expressing my thanks to Mr. Deepak Kapoor, my beloved husband, who was always a source of constant support and inspiration. They have been my strength as always and have brought a great deal of happiness to my life.