

PREFACE

The work in this thesis entitled “**Multidentate Ligand systems: Metal Binding and Applications**” was initiated in 2012 under the supervision of Dr. P. BANDYOPADHYAY and Dr. A. N. BISWAS in the Department of Chemistry, University of North Bengal. This research was carried on with financial support from UGC and NBU.

This research work was realized within the framework of the Programme: ‘UGC Research Fellowship in Science for Meritorious Students’ and ‘Senior Research Fellowship’ awarded by UGC. The work is an attempt to explore the photophysical behaviour of multidentate ligand systems and catalytic property of manganese complexes of tetra and pentadentate pyridine and quinoline based ligand frameworks for the oxygenation of hydrocarbons under ambient condition. Another perspective of the present work is to elucidate the mechanistic aspects of high valent manganese oxo complex of a non heme anionic pentadentate ligand catalyzed hydrocarbon oxidation.

I was highly inspired by my listening and interaction with distinguished experts and scientists during the course of my research work through participation in several meets, workshops and national as well as international seminars across the country.

In keeping with general practice of reporting scientific observation, due acknowledgement has been made whenever the work described was based on the finding of other investigators. I must take the responsibility of any unintentional oversights and errors, which might have crept in spite of precautions.



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