

PREFACE

The work described in this thesis entitled **“Cyclometallated compounds: Synthesis, Characterization and Reactivity”** was initiated with an attempt to explore the C(aromatic)-H bond activation by platinum metals using cyclometallation reaction.

The thesis consists of five chapters. A brief survey of aspects of the cyclometallation reaction is presented in the Chapter I along with the purpose of the present investigation.

The C(naphthyl)-H bond activation by ruthenium constitutes the core of Chapter II. All the cycloruthanates have been isolated in pure form and they have been characterized by spectral, X-ray diffraction and redox behaviour.

The work related to the activation of C(naphthyl)-H bonds by palladium (II) has been described in Chapter III.

Both selective and non-selective activation of C(naphthyl)-H bond by palladium(II) have been dealt in Chapter IV.

Chapter V concerns the C(naphthyl)-H bond activation by platinum(II) along with the synthesis of platinum(IV) cyclometallates.

The present work was initiated in July, 12th, 1995 in the Department of Chemistry, University of North Bengal, India, under the supervision of Dr. P. Bandyopadhyay.

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In keeping with general practice of reporting scientific observations, due acknowledgement has been made whenever the work described as based on the findings of other investigators. I must take the responsibility of any unintentional oversight and errors, which might have crept in despite of precautions.

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