Preface

The work described in the thesis has been carried out by the author in the Chemical Laboratory, Presidency College during the period 1979-85 under the guidance of Prof. D.N. Chatterjee, Professor of Chemistry, Presidency College, Calcutta, with the financial assistance from the Government of West Bengal.

It deals with the synthesis of a series of spirohydrocarbons derived from substituted tetralins having substituted spiroindane rings. The dehydrogenation of all the synthetic spirananes with 10% palladium-on-charcoal have been studied. They have been found to undergo interesting ring transformation by benzylic fission of the spirocyclopentane ring followed by angular cyclisation and thereby furnishing excellent method for the synthesis of angularly annellated polycyclic hydrocarbons.

The cationic nuclear alkylation of aromatics by lactones and hydroxy acids derived from substituted cyclopentanols and indanols have also been investigated. The reaction has been found to serve an excellent route to the synthesis of cyclopentenoanthracenes and 3,4-benzfluorenes.

An attempt has been made to explain the course of ring transformation occurring during catalytic dehydrogenation and the cyclialkylation reaction described in the thesis.

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