Preface

The thesis is the compilation of the research work carried out by the author under the supervision of Professor Pranab Ghosh in the Department of Chemistry, University of North Bengal during the period 2008 to 2015. It comprises a number of transformative reactions on different carbocyclic compounds. And as the author had privilege to work in the natural products laboratory, the carbocyclic compounds chosen as the starting substrates are some selective steroids and pentacyclic triterpenoids having immense practical utilizations.

In short, a chemical compound or substance produced by a living organism—thus found in nature, is a natural product. Within the periphery of organic chemistry, we consider natural products, typically, as pure organic compounds (thus pure molecules) isolated from natural sources related to lives, directly or indirectly. Due to the widespread and increasingly demandable applications of these natural molecules, supply at a required amount has lead their preparation in the laboratory by the process of chemical synthesis, which indeed has enriched organic chemistry enormously by following a huge number of challenging targets. And considering the prime importance of steroids and pentacyclic triterpenoids in medicinal chemistry as well as in materials science, we have taken an opportunity to enrich this particular area of the natural products chemistry by synthesizing a number of interestingly useful molecules through different known/ new transformative protocols.

I feel it an imperative, in my first opportunity, to express my heartfelt and sincere gratitude to my supervisor, Professor Pranab Ghosh, Department of Chemistry, University of North Bengal, West Bengal for providing me the opportunity to carry out my research work with all the marvellous supervision and utmost important suggestions. His continuous encouragement and guidance has played a pivotal role in furnishing a good basis for the present thesis.

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Again it is my humble remark that all the shortcomings of the thesis are solely of the author's.

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