ABSTRACT

The thesis entitled “Novel synthetic approaches towards heterocycles & carbocycles and their evaluation as potential inhibitors of PDE4” is divided into seven chapters. An overview on carbocyclic & heterocyclic compounds and their synthetic approaches are described in Chapter-1. A broad survey of literature about Benzimidazoles, Benzothiazoles, Poly-substituted pyrroles and functionalized cyclohexanones is covered in Chapter-2. Chapter-3 deals with the Aims and objectives of the work on novel synthetic approaches towards heterocycles & carbocycles and their evaluation as potential inhibitors of PDE4. Chapter-4 depicted the environmentally benign chemistry towards the synthesis and pharmacological importance of Benzimidazoles, Benzothiazoles and 1,2-disubstituted benzimidazoles. Chapter-5 illustrated Palladium mediated functionalization of poly substituted pyrroles and their assessment as potential inhibitors of PDE4. A greener approach towards functionalized cyclohexanones and their novel analogues are described in Chapter-6. A detailed methodology and experimental procedures followed for the synthesis of those heterocyclic and carbocyclic compounds are discussed in these chapters. Finally the thesis concludes with summary and conclusion in Chapter-7.