



INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS

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Thesis Title: Synthesis of Nitrogen and Oxygen heterocyclic compounds

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SHORT ABSTRACT

The content of this thesis has been divided into five chapters based on the results of experimental work done during the course of the research period. The chapter 1 of the thesis represents an introduction to nitrogen and oxygen heterocyclic compounds, their biological utility and significance as well as experimental synthesis. Chapter 2 describes regioselective synthesis of dihydropyran derivatives via oxonium-ene cyclization reaction. Chapter 3 represents regio- and diastereo-selective synthesis of substituted pyrano-pyrans from β -allenols and aldehydes. Chapter 4 deals with stereo- and regio-selective synthesis of substituted pyrrolidines mediated by Indium (III) chloride. Chapter 5 is about intramolecular cyclization of N-tethered alkenol-benzyls via Friedel Craft type reaction.