



INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS

Name of the Student : Srinivasa Rao Manne

Roll Number : 136122030

Programme of Study : Ph.D.

Thesis Title:

New Applications of Boc-Oxyima, *o*-NosylOXY and Nitrobenzene Sulfonic Acids in Organic Synthesis

Name of Thesis Supervisor(s) : Dr. Bhubaneswar Mandal

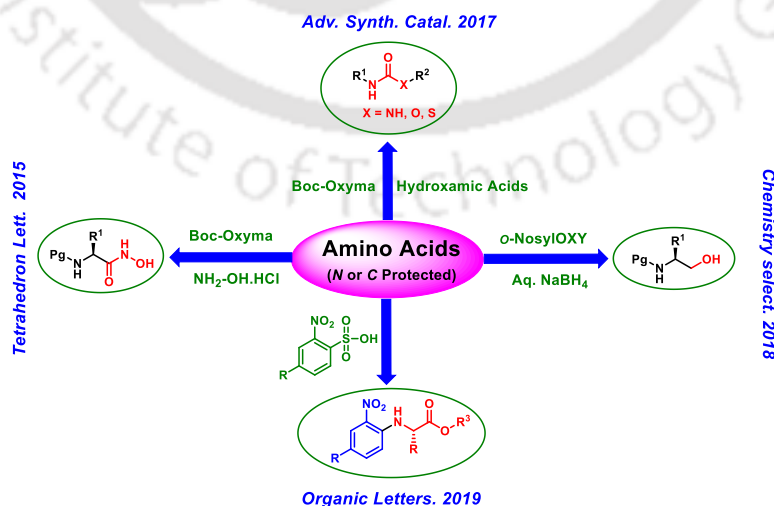
Thesis Submitted to the Department/ Center : Department of Chemistry

Date of completion of Thesis Viva-Voce Exam : 20/04/2019

Key words for description of Thesis Work : Hydroxamic acids, Ureas, Carbamates, Alcohols, and Arylamines.

SHORT ABSTRACT

The works presented in this thesis are mainly focused on the development of new methodologies for the synthesis of hydroxamic acids, ureas, carbamates, thiocarbamates, alcohols, and arylamines. The whole structure of the thesis is depicted in Scheme 1. The importance of the compounds mentioned above, their existing synthetic methods, and drawbacks associated with the existing methods are briefly discussed in chapter 1. Boc-Oxyima mediated racemization-free synthesis of hydroxamic acids from carboxylic acids is described in chapter 2. In chapter 3, we described a simple and efficient method for the synthesis of ureas, carbamates, and thiocarbamates *via* Lossen rearrangement of the hydroxamic acids using Boc-Oxyima. In chapter 4, we described a versatile synthetic methodology for the racemization free synthesis of β -amino alcohols directly from carboxylic acids using *ortho*-NosylOXY. In chapter 5, we described the development of a new protocol for the synthesis of arylamines directly by the reaction of nitrobenzene sulfonic acid with amines *via* ipso nucleophilic aryl substitution (*i*SNAr) process.



Scheme 1. Thesis overview