



INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS

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Programme of Study : Ph.D.

Thesis Title: Exploration of Amines for the synthesis of Substituted Quinolines and Indoles

Name of Thesis Supervisor(s) : Prof. Abu T. Khan & Dr. Bhubaneswar Mandal

Thesis Submitted to the Department/ Center : Chemistry

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Key words for description of Thesis Work : Quinolines, Indoles, Amines, β -ketoester, cyclic ketones and *trans*- β -nitrostyrenes

SHORT ABSTRACT

The Ph.D thesis work entitled 'Exploration of Amines for the Synthesis of Substituted Quinolines and Indoles' describes some original and interesting research work. The dissertation is organized into six chapters. The thesis work is designed for exploration of amines for regioselective synthesis of C1-functionalised 3-arylbenzo[f]quinoline, synthesis of various fused benzoquinolines, quinolines, and naphthoquinoline derivatives, synthesis of 2,3-disubstituted unsymmetrical quinolines and benzoquinolines derivatives, 3-arylquinolines and 3-arylindole derivatives. All these compounds were characterized by spectroscopic techniques and HRMS. In addition, the structures of the synthesized compounds were confirmed through single crystal XRD. Out of these works incorporated in the thesis, three research works are already published in various international journals and another work is under communication and the remaining one more work will be communicated soon for publication.