INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS

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Programme of Study	:	Ph.D.

Thesis Title: Copper Oxide Nanoparticles Assisted Synthesis of 1,4-Triazole Based New Organic Molecules And Facile Access to N-Heterocycles Using Multicomponent Reactions

Name of Thesis Supervisor(s)	:	Prof. Abu Taleb Khan (Supervisor), Prof. Bhisma Kumar Patel (Co-Supervisor)
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Key words for description of Thesis Work	:	Copper Oxide Nanoparticles, Click Chemistry and Multicomponent Reactions

SHORT ABSTRACT

During the tenure of my PhD, I have focused my research work mainly on the utility of heterogeneous copper oxide nano catalyst for the synthesis of 1,4-triazole based new organic molecules such as mono-, bis-, tris- and tetra-triazolyl-anthrone, mono- and bis-triazolyl-allenyl-anthracene and 2-triazolyl-imidazo[1,2-*a*]pyridine derivatives as well as in the development of multicomponent reaction for the synthesis of substituted pyrroles using non-metallic catalyst from easily available starting material and environmentally benign condition and also for the regioselective synthesis of highly substituted 1,4-dihydropyridine and fused pyridine derivatives. The summarized results are shown below schematically.