Rapid Construction and Late-Stage Functionalization of Nitrogen Containing Heterocycles

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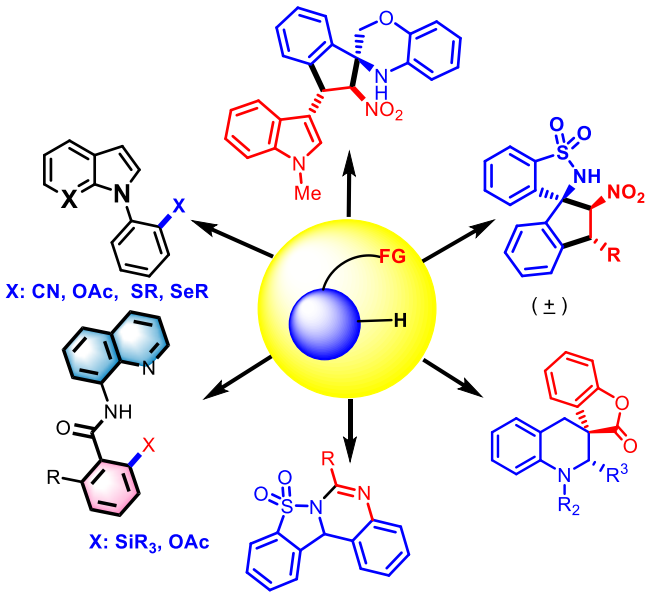
Abstract:
The ubiquitousness of benzoxazine, benzosultam, oxaziridine, quinazolines, indoles and tetrahydroquinolines skeletons in various natural products and pharmaceuticals make them immensely valuable heterocycles. Hence, the development of the new and efficient method for their synthesis and derivatization assumes high significance. Recently, we have developed several efficient and mild methodologies via direct and selective activation of inert C-H bonds and hydride shift reaction for the synthesis of densely functionalized potential bioactive 7-azaindoles, benzosultam fused quinazolines/quinazolones and nitro functionalized spiro heterocycles.



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Bio-Sketch of Speaker

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Dr. IndubhusanDeb obtained his M.Sc. degree in organic chemistry from Banaras Hindu University. He completed his Ph.D in 2008 at the Indian Institute of Technology Bombay (IITB) under the supervision of Professor I. N. N. Namboothiri. Thereafter, he moved to Rutgers University, USA to carryout postdoctoral research with Professor Daniel Seidel where he was involved in doing research for the synthesis of chiral heterocycles. After spending three years at Rutgers, he joined in the group of Professor Naohiko Yoshikai at Nanyang Technological University, Singapore, for his 2nd postdoctoral research. In April, 2013 He joined as a research investigator (Project leader) in process chemistry division of Bristol-Myers Squibb Research canter in Bangalore. Dr. Deb worked as a senior scientist in the division of Organic and Medicinal Chemistry at CSIR-IICB, (Jan, 2014-2018). At present, Dr. Deb is Principal scientist and associate Professor (AcSIR) in the same division. His research group is actively involved in asymmetric synthesis and designing synthetic methodology employing transition metal–catalyzed C–H bond activation chemistry and metal-free reaction for the synthesis of potential bioactive small molecules.