Name of Project

“Strategies and Tactics towards the Total Synthesis of Ergot Alkaloids”


Project No.: DST/CHM/2012005 (DoRD, IISER Bhopal)

Description & Concept

In this project, we have reported approaches for the total synthesis of ergot alkaloids. Ergot alkaloids primarily target serotonin (5-HT) receptors and α-adrenergic and dopamine receptors. Since, the congeners of this class of alkaloids have huge therapeutic properties (such as they are used as an anti-prolactin and anti-Parkinson’s disease drug), it is important to devise strategies for these alkaloids.

Date of Commencement: May 15, 2012

Projected date of completion (mention if already completed): May 16, 2015

Cost of Project and source of funding: INR 48,00,000/-

Name & Contact details of Faculty carrying out project
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Name & Contact details of Sponsor Organisation Nodal person

Science Engineering Research Board (SERB), Department of Science and Technology (DST), India

Give details of areas in which Research outcome can be used – the sectors etc. in India. Spell out in detail the utility
This project was one of the most important projects in the area of drug discovery by synthesizing naturally occurring secondary metabolites of ergot family. This project gives us the approaches that can be utilized for the drug discovery in particular drugs for Parkinson’s disease. Gratifyingly, a number of naturally occurring alkaloids have been synthesized in our laboratory.

**Progress achieved so far.**

Please see below for representative publications:

DDQ-Mediated Direct Intramolecular-Dehydrogenative Coupling (IDC): Expeditious Approach to the Tetracyclic Core of Ergot Alkaloids (Subhajit Bhunia, Santanu Ghosh, Dhananjay Dey, and Alakesh Bisai* *Org. Lett.* **2013**, *15*, 2426)
