Name of Project

“Strategies and Tactics towards the Total Synthesis of Icetaxane and [6,5,6]-abeo-Abietane Skeleton”

DAE Sanction No.: 2011/20/37C/12/BRNS/1731 dated: 01.12.2011

Project No.: DAE/CHM/2011008 (DoRD, IISER Bhopal)

Description & Concept

In this project, we have reported approaches for the total synthesis of naturally occurring icetaxane and taiwaniaquinoids of biological relevance. The members of these classes of terpenoids are reported to have interesting biological properties and, therefore, it is important to devise strategies for total synthesis of these terpenoids.

Date of Commencement: December 01, 2011

Projected date of completion (mention if already completed): November 30, 2014

Cost of Project and source of funding: INR 15,20,000/-

Name & Contact details of Faculty carrying out project
Dr. Alakesh Bisai
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Name & Contact details of Sponsor Organisation Nodal person

Young Scientist Research Grant by the Board of Research in Nuclear Science (BRNS), Department of Atomic Energy (DAE), 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 is one of most important projects in the area of drug discovery by synthesizing naturally occurring secondary metabolites of from diterpenoids family. A number of naturally occurring terpenoids have been synthesized in our laboratory and reported in the literature.

**Progress achieved so far.**
Please see below for representative publications:


"Total Syntheses of Taiwaniaquinol D and Taiwaniaquinone D via a key Lewis Acid-Catalyzed Nazarov Type Cyclization" (Badrinath N. Kakde, Amarchand Parida, Pooja Kumari, and Alakesh Bisai*) *Tetrahedron Lett.* **2016**, *57*, 3179).

"Approach to Meroseresquiterpenes *via* Lewis Acid Catalyzed Nazarov Type Cyclization: Total Synthesis of Akaol A" (Badrinath N. Kakde, Nivesh Kumar, Pradip Kumar Mondal, and Alakesh Bisai* *Org. Lett.* **2016**, *18*, 1752).