PhD Open Seminar

Department of Chemistry, IISER Bhopal

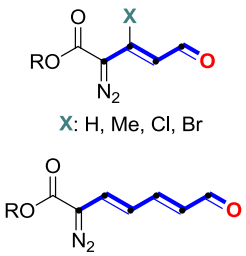
Speaker: (Thesis Supervisor: **Dr. Sreenivas Katukojvala**) Roll No.: 1120203
Haribabu Chennamsetti

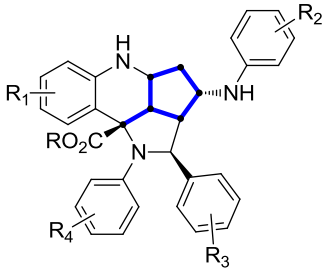
Topic of Seminar: "Design & Synthesis of Novel Ester Diazoenals and Diazodienals: Application to the Synthesis of Cyclopentane-Fused Octahydro-Pyrroloquinolines via Polycyclization of Rh-Dienalcarbenoids. "

Date: 15th November, 2018 Time: 4:00 PM Venue: AB2- 401

Abstract

Diazo compounds are versatile building blocks in organic synthesis. In particular, metallocarbenes derived from diazo compounds undergo various reactions including, cyclopropanation, X-H bond insertion, C-H functionalization, ylide rearrangements, and cycloadditions.[1] However, the new discoveries from the metal carbene chemistry are limited by the available classes of diazo compounds. Recently, our group designed a new class of enal functionalized diazo compounds (diazoenals). The novel Rh-enalcarbenoids derived from diazoenals have been shown to undergo [4+2]-annulation reactions with the electron rich π-bonds leading to the valuable heterocycles.[2] Moreover, diazoenals undergo dienamine activation under the combined Rh(II)/Brønsted acid catalysis which was subsequently utilized in the multicomponent synthesis of functionalized pyrroles and 1,4-oxazines via [4+1] and [3+3] annulations respectively.[3] Recently, our group developed a new approach to the electrophilic terminal-alkenes via olefination of Rh-enalcarbenoids with vinyl azides.[4] In continuation of our studies in the field of diazoenals, I would like to present my doctoral research work on the design and synthesis of diverse ester diazoenals, including halodiazoenals[5], and diazodienals[6] as well as application of diazodienals to the multi-component synthesis of tetracyclic cyclopentane-fused octahydro-pyrroloquinolines via a cascade novel polycyclization reaction of Rh-dienalcarbenoids[6].





References

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6. Chennamsetti. H.; Katukojvala, S. *Manuscript under preparation*