National Institute of Technology Rourkela

Defence Seminar

Seminar Title	: Exploring Molecular Intricacy: Development of Facile Carbon-Heteroatom Bonds via Oxidative Dearomatization Reactions (ODRs)
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Venue	: Seminar Hall (Department of Chemistry) Hybride mode: meet.google.com/ytt-ikzz-eer
Date and Time	: 24 Apr 2025 (11.30 AM)
Abstract	: In the last few decades, oxidative dearomatization has been widely recognized as an attractive and straightforward transformation for the development of a high level of molecular complexity, as it provides an efficient method to derive three dimensional architectures from simple planar achiral substrates. It has been envisaged that spiro[4.5] and [5.5]trienones, the core structures of many naturally occurring compounds, can be directly accessed from dearomative spiro-annulation of ynones, biaryl ynones and appropriately substituted phenols bearing a pendant side chain. Attempts to dearomatize arenols employing non-metallic reagents have been confined mostly to hypervalent iodine reagents, being to generate mostly spiro-lactones, spiro-ethers, and spiro-amines till date. In this context, with the continued interest in dearomative transformations, we started our journey through the exploration of an oxidative dearomative methodology by employing quaternary ammonium tribromides. This report highlight the direct C-H functionalization proceeding via energetically demanding dearomatization reactions promoted by either visible-light or Lewis acid or *in situ* generated quaternary ammonium tribromides which are expected to be a challenging transformations. The challenge further aggravates due to introduction of several carbon-heteroatom bond generations, as these direct towards a high-valued pathway in generation of complex bioactive molecules.