

## **Seminar**

### **N-Substituted Pyrrolinium Salts: Synthons for the Syntheses of Electron-Rich Olefins, Backbone Functionalized NHCs, and Carbon Based Radicals**

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1-Pyrroline and its derivatives are a very important class of compounds; exist in various biologically active units, alkaloid and in many natural products. 1-Pyrrolinium cations are being used as ionic liquids and find applications in material chemistry. On the other hand, C-2 H substituted N-aryl pyrrolinium cation can be used as a precursor of ylidene which leads to the isolation of cyclic(alkyl)(amino)carbene (CAAC). CAACs are stronger  $\sigma$ -donor and better  $\pi$ -acceptor than N-heterocyclic carbene (NHC). So far, only N-aryl substituted CAACs have been used for the stabilization of various low valent, low coordinated compounds including open-shell compounds.

In my talk, I will discuss about our findings on i) the use of N-Substituted 1-pyrrolinium salts as synthons for the syntheses of electron-rich olefins, ii) role of N-substituents on 1-pyrrolinium cation in generation of triazaolefin, iii) abnormal addition of N-aryl substituted NHC to 1-pyrrolinium cations and subsequent synthesis of backbone functionalized NHCs, and iv) direct access of C-2 substituted N-alkyl 1-Pyrrolinium cations, to generate N-alkyl CAAC stabilized carbon based radicals.

I will also discuss very briefly about our very recent findings on the reactivity of N-heterocyclic olefins.

***Thursday, Feb 21<sup>st</sup> 2019***

***4:00 PM (Tea/Coffee at 3:30 PM)***

***Auditorium, TIFR-H***