

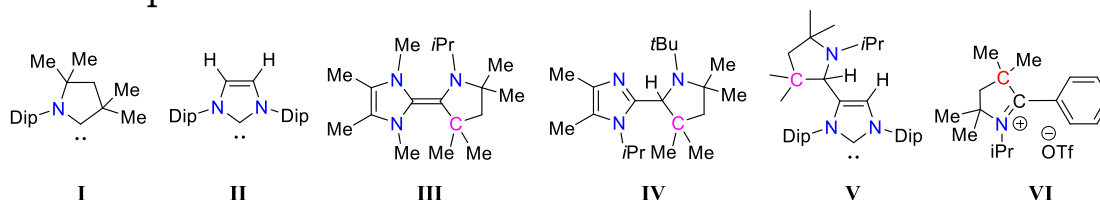
## Seminar

### 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 ylide which leads to the isolation of cyclic(alkyl)(amino)carbene (CAAC), I. CAACs are stronger  $\sigma$ -donors and better  $\pi$ -acceptors than N-heterocyclic carbene (NHC), II. So far, only N-aryl substituted CAACs have been used for the stabilization of various low valent, low coordinated compounds including open-shell compounds.



Scheme 1: Chemical structures of I, II, III, IV, V and VI.

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, III, ii) role of N-substituents on 1-pyrrolinium cation in generation of triazaolefin, IV, iii) abnormal addition of N-aryl substituted NHC to 1-pyrrolinium cations and subsequent synthesis of backbone functionalized NHCs, V, and iv) direct access of C-2 substituted N-alkyl 1-Pyrrolinium cations, VI to generate N-alkyl CAAC stabilized carbon based radicals.

**Monday, Jul 2<sup>nd</sup> 2018**

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

**Seminar Hall, TIFR-H**