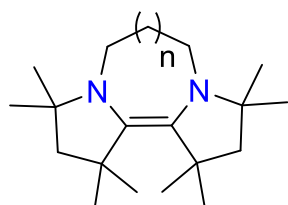


## Students' Annual Seminar

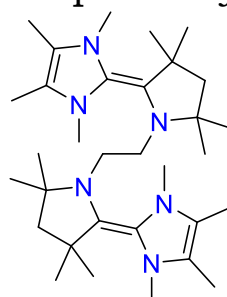
### Bis-Pyrollinium cations: Precursors for Electron Rich Olefins

**Mithilesh Kumar Nayak**

Electron-rich olefins have electron donating groups attached to the double bond of olefins. These have the potential for (reversible)-electron donors<sup>[1]</sup> as single or double-electrons and have found various applications such as redox-active ligands in organometallic chemistry, reducing agents, organocatalyst<sup>[2]</sup>. Tetrathiofulvalene (TTF) is a most common example of electron rich olefins and available commercially, but it is unsuccessful to reduce alkyl/aryl halide. Therefore, a number of azaolefins have been developed through replacing Sulphur atoms of TTF by Nitrogen atoms which make them more electron rich and these are able to reduce aryl halide. Here, I will discuss syntheses of electron rich diaza-olefins I, bis(triaza-olefins) II. Diaza-olefins can be taken as CAAC-CAAC (CAAC: cyclic alkyl amino carbene) dimer and bis(triaza-olefins) taken as heterodimer of bis-CAAC and alkyl substituted N-heterocyclic carbene. We isolated the corresponding radical cation and dication upon one and two electron oxidation respectively of diaza-olefins.



I



II

**Friday, Mar 8<sup>th</sup> 2019**

**10:30 AM (Tea/Coffee at 10:15 AM)**

**Seminar Hall, TIFR-H**