

Internal Webinar

Effect of aryl π -conjugation of photoluminescent amino and ammoniumboranes for selective sensing on picric acid and F^- , CN^- ions

Ramar Arumugam

TIFR, Hyderabad

Molecular based sensors for the detection of small ions (anions/cations) have been received attention in industrial and medical field.^[1] Sensors should have an excellent selectivity, stability, eco-friendly, water soluble low detection limit and more prone to response. The boron-ligand complexes are prominent to sense anions like fluoride and cyanide owing to their intrinsic characteristic features such as Lewis acidity and tunability. Using this fascinating property, a large number of organoboron systems have been constructed for various applications such as sensing, bio-probes, and optical devices.^[1] In view of this interest we synthesized a series ammonium boranes and neutral amino boranes from different bromo-N,N-dimethylamine precursors. These compounds are air and moisture-stable and soluble in organic solvents. These compounds were characterized by multinuclear NMR spectroscopic methods as well as single-crystal X-ray diffraction analysis. The photophysical properties of these compounds are being investigated.

References:

1. a) T. W. Hudnall and F. P. Gabbai, *J. Am. Chem. Soc.*, 2007, 129, 39, 11978–11986. b) P. Sudhagar, K. K. Neena and P. Thilagar, *J. Mater. Chem. C.*, 2017, 5, 6537–6546 c) S. Sa, V. Mukundam, A. Kumari, R. Das and K. Venkatasubbaiah, *Dalton Trans.*, 2021, 50, 6204–6212

Wednesday, Dec 14th 2022

10:30 AM

