

Internal Seminar

Synthesis of neutral amino boranes (Donor-Acceptor) and bis(dimesityl boryl) arenes (Acceptor-Acceptor)

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Fine-tuning the optical and electronic properties of small molecules or polymers based on an entire carbon framework by incorporating main group elements such as B, N, P, Si, and S is an attractive stratagem to produce fascinating materials with remarkable properties.^[1,2] Several heteroatom-doped organic π -systems have been developed and exploited for preparing smart sensors, optoelectronic devices, and non-linear optical materials.^[2] Among several main group elements incorporated π -systems, boron-based conjugated systems have attracted particular attention owing to their outstanding optical/electronic properties and applications in several fields. In view of this interest, we synthesized series of donor-acceptor and acceptor-acceptor from different bromo-N, N-dimethylamine / dibromo compounds. These are air- and moisture-stable and are soluble in organic polar 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) A. Fukazawa and S. Yamaguchi, Chem. Asian J, **2009**, 4, 1386-1400; b) P. Sudhagar, K. K. Neena and P. Thilagar, J. Mater. Chem. C., **2017**, 5, 6537-6546 c) Y.-J. Cheng, S.-H. Yang and C.-S. Hsu, Chem. Rev., **2009**, 109, 5868-5923.
- 2) (a) C. D. Entwistle and T. B. Marder, Angew. Chem. Int. Ed., **2002**, 41, 2927-2931; b) Z. M. Hudson and S. Wang, Acc. Chem. Res., **2009**, 42, 1584-1596; c) G. Cravotto, E. C. Gaudino and P. Cintas, Chem. Soc. Rev., **2013**, 42, 7521-7534;

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10:00 AM

Seminar Hall