TIFR Centre for Interdisciplinary Sciences
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Internal Seminar

Bulky guanidinate ligand stabilized main group metal complexes: Synthesis, characterization and reactivity studies

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In my talk I would like to discuss synthesis of a series of s- and p- block metal complexes by employing bulky guanidine ligand, their reactivity studies as pre-catalysts for organic transformations. Also, I will discuss Aluminum monohydride complex reactivity studies for chemo-selective hydroboration of carbonyl compounds. At the end, I will discuss Thiourea stabilized Copper(I) chloride complex effective catalyzed Azide-Alkyne Cycloaddition (CuAAC) reaction.

References:

1. Barman, M. K.; Baishya, A.; Peddarao, T.; Nembenna, S., Guanidinate stabilized germanium(II) and tin(II) amide complexes and their catalytic activity for aryl isocyanate cyclization. J. Organomet. Chem. 2014, 772–773, 265-270.

2. Barman, M. K.; Baishya, A.; Nembenna, S., Bulky guanidinate stabilized homoleptic magnesium, calcium and zinc complexes and their catalytic activity in the Tishchenko reaction. J. Organomet. Chem. 2015, 785, 52-60.

3. Barman, M. K.; Nembenna, S., Mixed guanidinato-amido Ge(IV) and Sn(IV) complexes with Ge=E (E = S, Se) double bond and SnS_4, Sn_2Se_2 rings. RSC Adv., 2016, 6, 338-345.

4. Barman M. K.; Sinha, A. K; Nembenna, S., An efficient and recyclable thiourea supported copper(I) chloride catalyst for azide-alkyne cycloaddition reactions. Green Chem. 2016, 18, 2534-2541.

5. Jakhar, V. K.‡, Barman, M. K.‡, Nembenna, S. "Alminium mono hydride catalyzed selective Hydroboration of carbonyl compounds" Org. lett. 2016 (DOI: 10.1021/acs.orglett.6b02310)

(‡ equal contribution)

Wednesday, Aug 31st 2016

11:30 AM (Tea/Coffee at 11:15 AM)

Seminar Hall, TCIS