Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500107

Internal Seminar

Synthesis of Heterometallic Co^{II}-Y^{III} Complexes using Ferrocene based Ligand

Amit Chakraborty

TIFR-Hyderabad

Heterometallic 3d-4f metal complexes containing diamagnetic metal ions (either 3d or 4f metal ions) are of interest in molecular magnetism.[1] In literature report, we have seen that heterometallic complexes are synthesized by serendipitous approach or rational design approach.[2] Typically rational design approach depends upon judicial choice of organic linker.[2] Compartmental ligands in general and Schiff-base ligands in particular are quite effective for assembling such complexes.[1,2] One of the compartments in such ligands can be specific for 3d metal ions while the other compartment can be utilized for specifically accommodating f- block metal ions. We have utilized ferrocene to build compartmental ligands[3] which have been used to synthesize the heterometallic complexes. Here I will present, how the bridging organic linker influence the magnetic properties of Co^{II}-Y^{III} systems.[3]

References:

[1] Chakraborty, A.; Goura, J.; Kalita, P.; Swain, A.; Rajaraman, G.; Chandrasekhar, V. Dalton Trans. 2018, 47, 8841–8864.
[2] Chakraborty, A.; Goura, J.; Bag, P.; Chandrasekhar, V. Eur. J. Inorg. Chem. 2019, 1180– 1200.
[3] Acharya, J.; Swain, A.; Chakraborty, A.; Kumar, P.; Kumar, V.; Gonzalez, J.; Cador, O.; Pointillart, F.; Rajaraman, G.; Chandrasekhar, V. Inorg. Chem. 2019, 58, 10725−10735.

Tuesday, Oct 1st 2019

10:45 AM (Tea/Coffee at 9:30 AM)

Seminar Hall, TIFR-H