

*Structural diversity of coordination polymers derived from imidazole based ligands*Anantharaman Ganapathi<sup>1</sup><sup>1</sup>Department Of Chemistry, IIT Kanpur, Kanpur, India

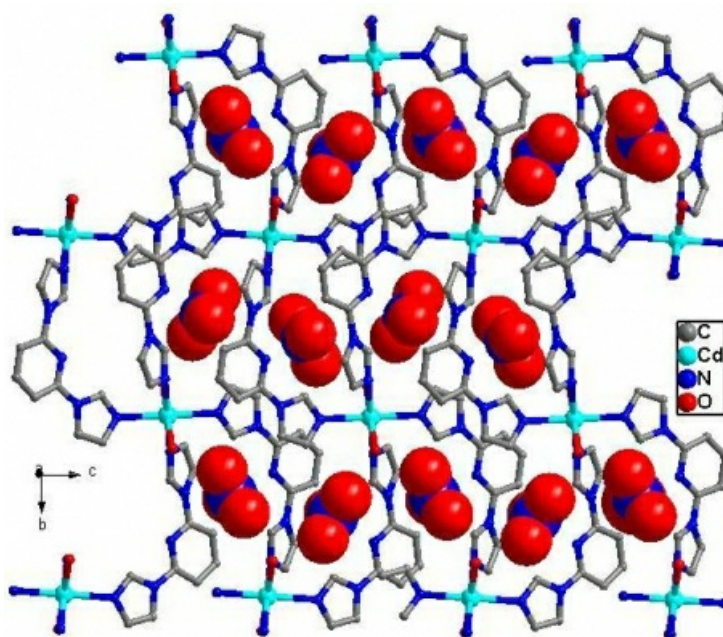
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The rational design and synthesis of coordination polymers (CPs) is an emerging area of interest on account of their aesthetic structures and potential applications in storage/separation, catalysis, magnetism, anion exchange and luminescence. In recent years crystal engineering has dominated the field of CPs because through the understanding and control of the architecture one can design new structures with desired physical and chemical properties. Crystal engineering also deals with the control over solid state design of supramolecular interactions involving H-bonding,  $\pi$ - $\pi$ , anion- $\pi$  and other weak interactions and can generate CPs with desired geometry and topology. In the CP domain extensive efforts have been exerted in designing stable and robust network using linear ligands.[1-4] In contrast, a less attention has been paid towards the construction of CPs using angular ligands. CPs composed of flexible angular ligands can impart interesting dynamic networks feasible for structural transformations.[5] In the present talk the synthesis of CPs with imidazole based tritopic angular ligands derived from central 5-(thiophene) or 6-(pyridine)-membered rings will be discussed. The formation of different networks ranging from 1D to 3D obtained by change in metal ions, solvent, anions and ancillary ligand. In addition SCSC transformations accompanied by structural variation and photoluminescent properties will be presented.[5-11]

[1] Singh, N.; Anantharaman, G.(2014) CrystEngComm 16, 6203

[2] Singh, N.et. al. (2015) CrystEngComm 17, 2153.

[3] Tripathi, S. (2015) CrystEngComm 17, 8876 - 8887.



**Keywords:** [Coordination polymers](#), [MOFs](#), [Crystal Engineering](#)