Poster Presentation

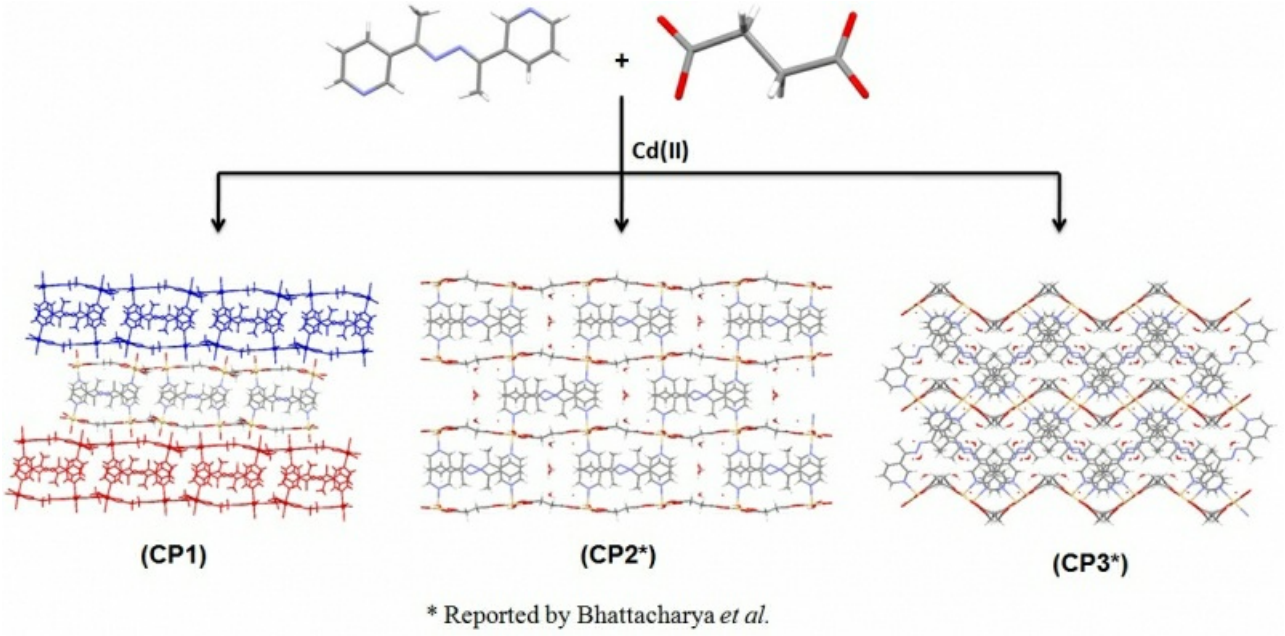
MS002.P11

Influence of reaction conditions on changing structures of coordination polymers

Fayaz Baig[1]
[1]*Chemistry Department, Birla Institute Of Technology And Science(BITS)-Pilani, Pi, Pilani, India*
E-mail: fayazbaig2012@gmail.com

Crystal engineering is a branch of science deals with understanding intermolecular interactions leading to design various supra molecular solid materials. Coordination polymer(CP)s are the solid materials emerging various architectures attracting much attention for their fascinating structures and their potential applications in gas storage, separation, sensing, luminescence and in catalysis. Designing metal nodes and organic linkers are the keys for tremendous synthesis to construct CPs with desired physical and chemical properties. The principle control of synthesizing CPs depends on various parameters such as nature of metal atoms, counter anions, solvent or guest molecules and reaction conditions etc. Contributing to this we recognized how the structural features of CPs were influenced by the reaction conditions. In the present work we synthesized a 2D coordination polymer (CP1) using disodium succinate and bispyridyl-bisimine ligands with Cd(II) while Bhattacharya et al. have reported two 3D structures (CP2 and CP3) with the same substrates. We are mainly focusing on analyzing the structural features of CP1, CP2 and CP3 by comparing their coordination environment of Cd(II) centre, geometry of bispyridyl-bisimine ligand and geometry & binding modes of succinate and also how the reaction condition leading to the formation of CP1, CP2 and CP3.

[1] Bhattacharya, B. et al. (2013) Crystal Growth Des. 13, 731-739.
[2] Maity, D. K. et al. (2015) Dalton Trans. 44, 20999-21007.



Keywords: Crystalengineering, Coordination-polymers, Self assembly