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Title:	Template effect of innocent and coordinating anions on the formation of interpenetrated 2D and 3D networks: methyl orange and iodine sorption studies
Authors:	Mandal, S.K. (/jspui/browse?type=author&value=Mandal%2C+S.K.)
Keywords:	2D and 3D networks Cadmium compounds Citrus fruits
Issue Date:	2020
Publisher:	Royal Society of Chemistry
Citation:	CrystEngComm, 22(4), pp.751-766.
Abstract:	A 2D Cd(ii) coordination polymer [Cd2(L1)4(H2O)4][ClO4]4·5(H2O), CP1, was synthesized with 2,5-bis(4-pyridyl)-3,4-diaza-2,4-hexadiene (L1) while the use of benzene-1,3-disulphonate (L2) along with L1 resulted in a novel 3D Cd(ii) coordination polymer, [Cd(L1)2(L2)]·2(H2O)·(CH3OH), CP2. CP1 attained a threefold interpenetrated 2D staircase network where the channels are filled with H2O and ClO4- anions. CP2 has a 3D interpenetrated structure and has small pores. The chemical nature and size of the pores of CP1 and CP2 are effective in adsorbing organic dye molecules. Selective adsorption of upto 96% of methyl orange (MO) within 10 min was observed in CP1 and CP2. CP2 was also studied for the adsorption and desorption of iodine. CP1 and CP2 showed luminescence and their solid state PL has a strong emission peak at ~484 nm. The structural analysis of L1 and [HL1][ClO4] showed the effect of ClO4- on the supramolecular assembly and geometry of the molecules of L1.
Description:	Only IISERM authors are available in the record.
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