Supramolecular Isomerism of Three Dimensional 3-connected Coordination Polymers

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Polymorphism and supramolecular isomerism are widely encountered in the crystalline compounds. However, most coordination complexes referred to these concepts contain different guest/solvent molecules. No example has been reported to have supramolecular isomerism in the context of the 3-connected topologies.[1] We have developed a straightforward construction strategy for 3-connected coordination networks.[2] We have also just successfully designed and synthesized four novel supramolecular isomers based on low-dimensional coordination compounds.[3] Here we report three supramolecular isomers based on binary Cu^I 3,5dimethyl-1,2,4-triazolate (á, â, ã) isolated from different solvothermal conditions. The topologies of á, â, and ã can be rationalized to be 8^210 -a, 4.8.16, 6.10², respectively.[2] It should be noted that the 3connected 4.8.16 and 6.10^2 nets can also be simplified as 4-connected $4^{2}8^{4}$ and 6-connected á-Po nets, respectively. The three isomers also display different photoluminescence properties.

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