Poster Presentation

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Dynamic cobalt metal-organic framework and application

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Metal-organic frameworks (MOFs) are an emerging class of crystalline materials made by connecting a metal ion or cluster to polytypic organic linkers. They have a wide range of potential applications in gas storage, catalysis, drug delivery, sensing, separation and magnetism. [1, 2] Flexible MOFs described as MOFs with structural transformability upon stimuli are of special interest in many fields. [2, 3]

In this work, one dynamic MOF, {[Co(34pba)(34pbaH)(OH2)] (DMF)0.5(H2O)}n (A), where 34pba = 3-(4-pyridyl)benzoate and DMF= N,N-dimethylformamide, was synthesized using the solvothermal method. It was fully characterized using X-ray diffraction methods, infrared spectroscopy, elemental analysis and thermal methods.

X-ray analysis reveals that A crystallizes in the triclinic system, space group P-1. Its structure has been elucidated and its applications as a chromophoric sensor for volatile organic solvents have been investigated.

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