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Reversible single-crystal to single-crystal phase transition of one Zn(II)–salicyaldimine complex under non-ambient conditions

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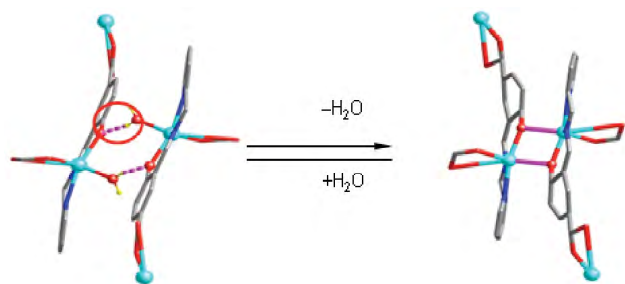
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One fluorescent Zn(II)–salicyaldimine coordination polymer, $[\text{Zn}(\text{L}^{\text{salpyca}})(\text{H}_2\text{O})]_n$ (1; $\text{H}_2\text{L}^{\text{salpyca}}$ = 4-hydroxy-3-(((pyridin-2-yl)methylimino)methyl)benzoic acid), showing a one-dimensional (1D) zigzag chain structure has been hydro(solvo)thermally synthesized. Kind of different Phase transition structures can be seen as different external perturbations gave to complex 1. High temperature X-ray powder diffraction (XRPD) experiment clearly indicate that the structure of 1 is quite flexible as a result of a reversible 1D–2D single-crystal to single-crystal (SCSC) transformation.

Structure determination on the high temperature X-ray powder diffraction (XRPD) pattern (SDPD) confirmed the removal and rebinding of coordination water molecules of 1 by thermal dehydration gives rise to the dehydration product $[\text{Zn}(\text{L}^{\text{salpyca}})]_n$ (1'), which has a dizinc-based two-dimensional (2D) grid-like (4,4)-layer structure and accompanies with changes in coordination sphere and network dimensionality.

In addition to thermal effect on complex 1, external perturbations of pressure and low temperature also make the complex showed phase transition behavior. Detail structural information will show in the presentation.



References:

- [1] Jing-Yun Wu, Ching-Yun Chang, Chi-Jou Tsai, and Jey-Jau Lee “Reversible Single-Crystal to Single-Crystal Transformations of a Zn(II)–Salicyaldimine Coordination Polymer Accompanying Changes in Coordination Sphere and Network Dimensionality upon Dehydration and Rehydration” *Inorg. Chem.*, 2015, 54 (22), pp 10918–1092

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Crystal nickel(II) complexes with a bidentate hydrazone ligand

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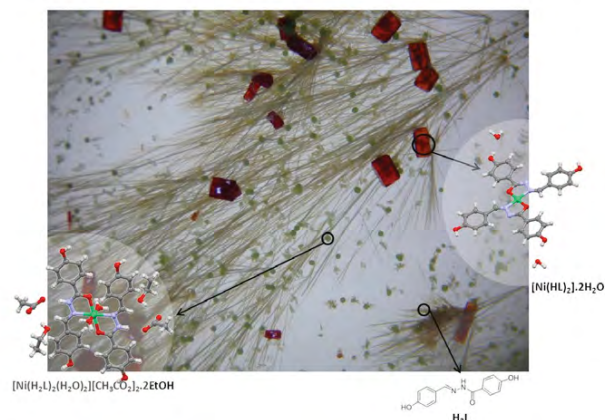
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The Schiff base ligands are frequently used in the synthesis of new coordination compounds with interesting structures and promising properties in different fields. In this work we describe the results of a crystal study about the reactivity in ethanol between nickel(II) acetate and the bidentate Schiff ligand (E)-N'-(4-Hydroxybenzylidene)-4-hydroxybenzohydrazide (H₂L). [1]

As is shown in the image, two types of crystal nickel compounds have been isolated. So first crystallized the green octahedral complex $[\text{Ni}(\text{H}_2\text{L})_2(\text{H}_2\text{O})_2]\text{Ac}_2 \cdot 2\text{EtOH}$ and later orange crystals of the square-planar compound $[\text{Ni}(\text{HL})_2] \cdot 2\text{H}_2\text{O}$ were formed after the monodeprotonation of the ligand.

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References:

- [1] C-M. Li, H-Y. Ban, *Acta Cryst.* 2009, E65, o1465.

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