

A 2D Polyoxometalate-Based Complex: Spin-Canting and Metamagnetism

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Preparation of complex **1**: A mixture of CuCl₂·2H₂O (0.200 g, 1.2 mmol), 2-Hptz (0.050 g, 0.34 mmol), (NH₄)₆Mo₇O₂₄ (0.150 g, 0.12 mmol) and H₂O (10 mL) was heated at 160 °C for 3 days in a sealed 23-mL Teflon-lined stainless steel vessel under autogenously pressure. Blue block crystals were isolated after the reaction solution was cooled to room temperature within 1 day, washed with water, and air-dried. Yield: 0.140 g (45% based on ligand). Elemental analysis for C₆H₉Cu₂Mo₄N₅O₁₆: calcul. (%): H 0.99, C 7.85, N 7.63; found (%): H 0.77 C 7.87 N 7.65. IR data (KBr, cm⁻¹): 3426m, 3095w, 2787w, 1616w, 1440m, 962s, 937s, 919s, 898w, 851s, 828w, 722w, 681s, 523m.

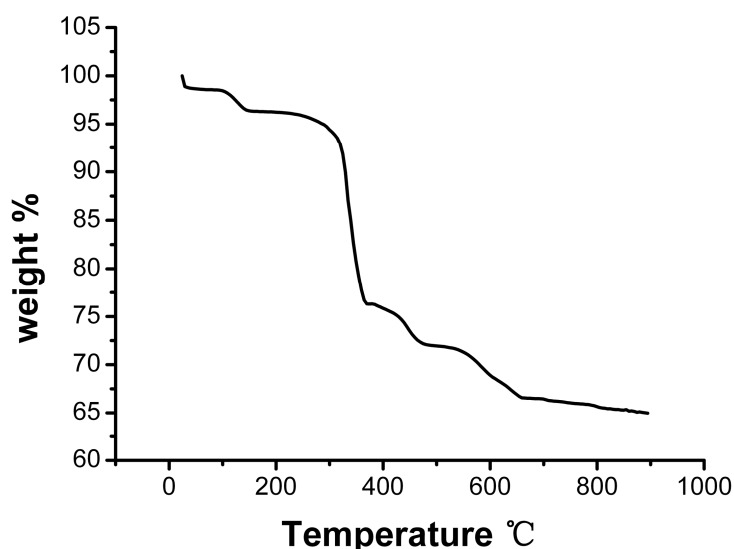


Fig. S1 The TGA curve of **1**

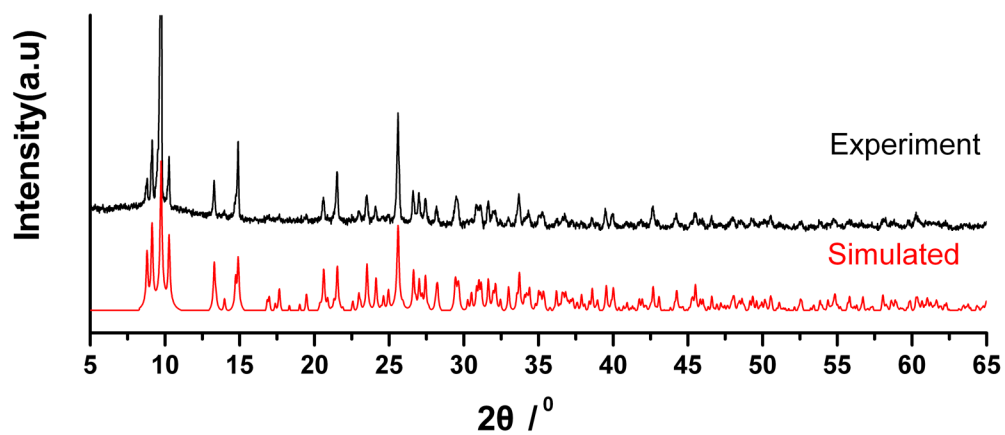


Fig. S2 The PXRD pattern of **1**

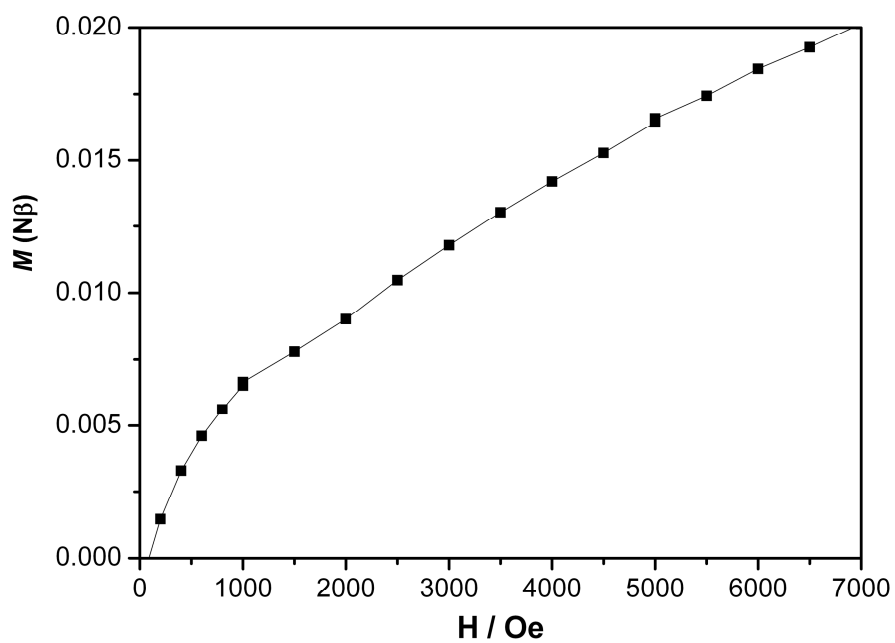


Fig. S3 the field dependent isothermal magnetization for **1** at 2 K from 0 to 7000 Oe

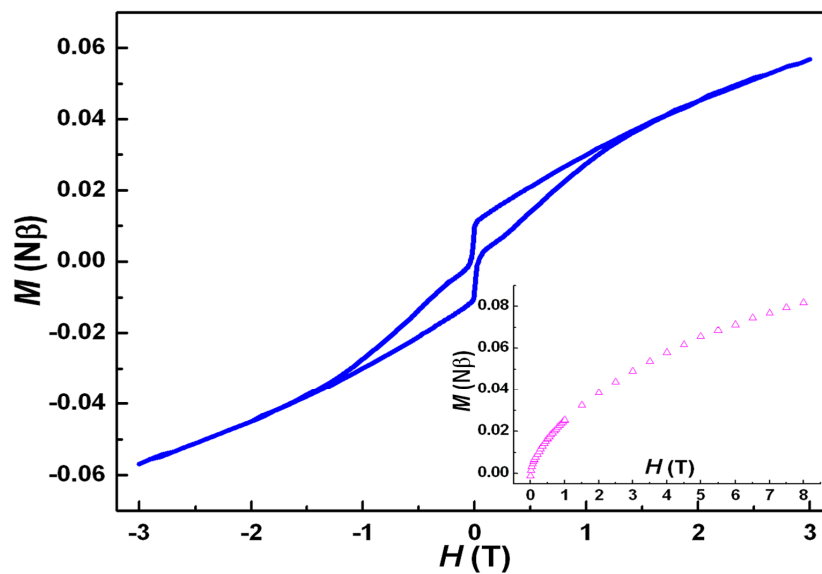


Fig. S4 The hysteresis loop measured at 2 K in the ± 3 T range. The insert denotes the field dependent isothermal magnetization for **1** at 2 K from 0 to 8 T

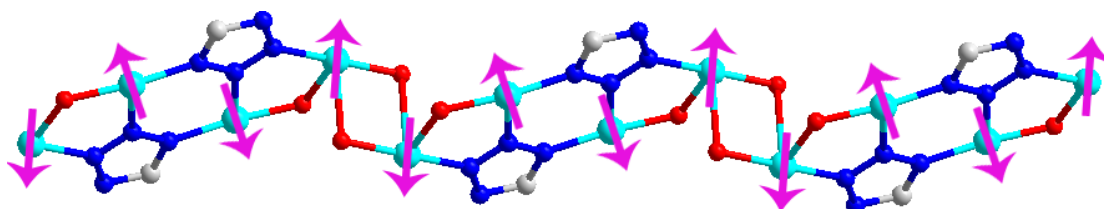


Fig. S5 Proposed spin configuration of Z-type chain for **1**. The magenta arrows represent individual moments of spin carriers.