Electronic Supplementary Information

An unusual ten-connected self-penetrating metal-organic framework based on tetranuclear cobalt clusters

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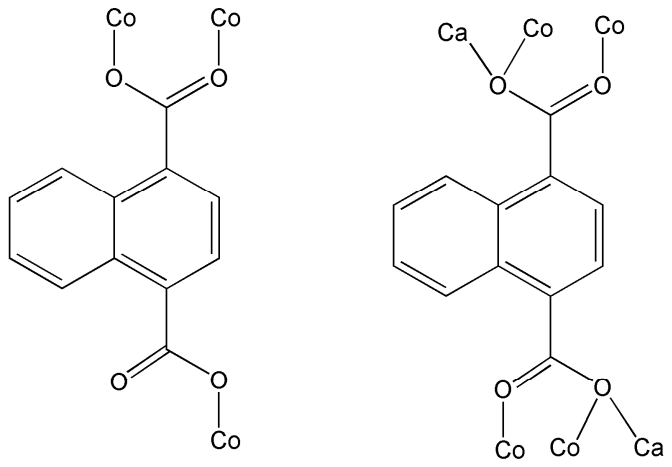
Materials. All reagents and solvents for syntheses were purchased from commercial sources and used as received. The 1,3-bix was synthesized by following the procedures described previously (*J. Am. Chem. Soc.,* 1997, **119**, 2952).

General Characterization and Physical Measurements. The C, H, and N elemental analyses were conducted on a Perkin–Elmer 240C elemental analyzer. The inductively coupled plasma (ICP) analysis was performed on a Leeman Labs Prodigy inductively coupled plasma-optical atomic emission spectrometer (ICP-AES). Powder X-ray diffraction (PXRD) pattern of the sample was collected on a Rigaku Dmax 2000 X-ray diffractometer with graphite monochromatized CuKα radiation and 2θ ranging from 5 to 40°. Temperature-dependent magnetic susceptibility data for polycrystalline compound 1 was measured on a Quantum Design MPMS-XL SQUID magnetometer under an applied field of 1000 Oe over the temperature range of 2-300 K.



1,4-ndc1 1,4-ndc2

Scheme S1. The coordination modes of the 1,4-ndc ligands in **1**.

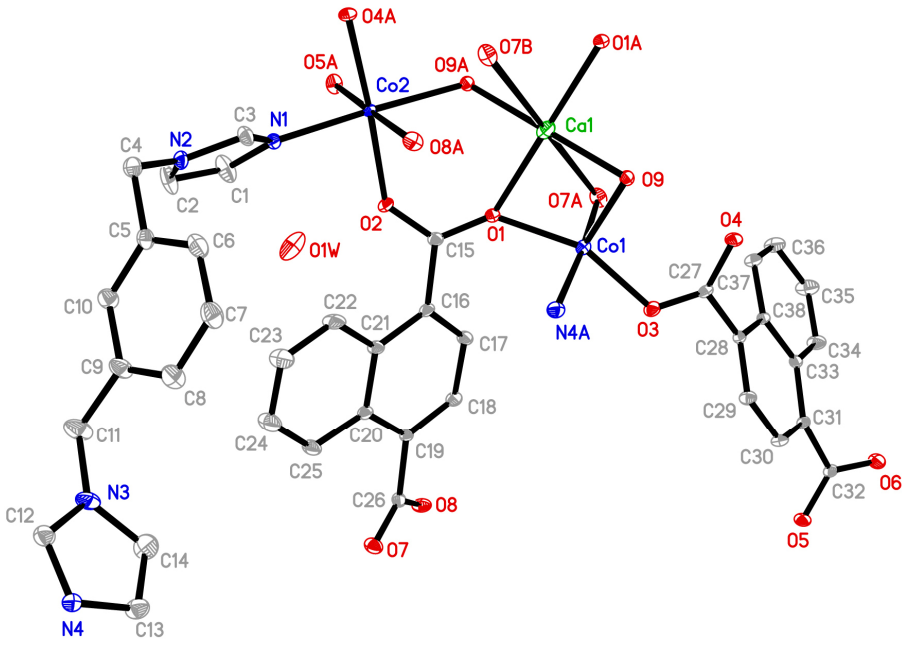


Fig. S1. The ORTEP figure of **1** (Displacement ellipsoids drawn at the 30% probability level).

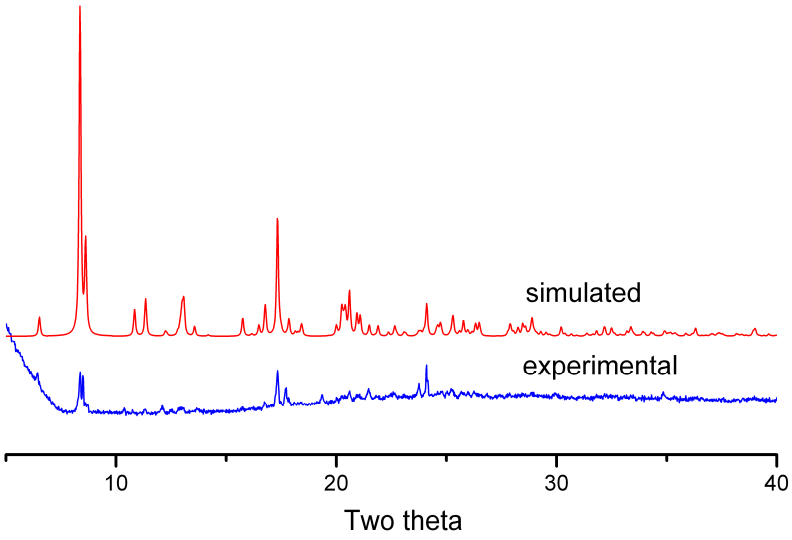


Fig. S2. PXRD patterns of the simulated and experimental compound **1.**