

Electronic Supplementary Information (ESI)

A Unique 2D Framework Containing Linear Trimeric Cobalt(II) of Mixed T_d - O_h - T_d Geometries Linked by Two Different Single-carboxylate-aromatic amine Ligands: Structure and Magnetic Properties

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Experimental Section

3-(1H-benzimidazol-2-yl) propanoic acid (Hpa) O-phenylenediamine (5.00g 4.6 mmol) and succinic acid (5.46 g 4.6 mmol) were dissolved in 10 ml of polyphosphoric acid (PPA) and 40 ml of phosphoric acid. The mixture was heated for 4 h at 185°C with stirring. Finally the reaction mixture was poured into 200 ml of water after cooling to 100°C. The precipitation (A) was filtered, and the filtrate gave a white solid (B) on a cooling night again, The solid B was filtered, recrystallized from hot water, and shown to be the title product, 3.18g (36% yield). FTIR (KBr): 3428, 3160, 1673, 1632, 1575, 1523, 1490, 1461, 1293 cm^{-1} .

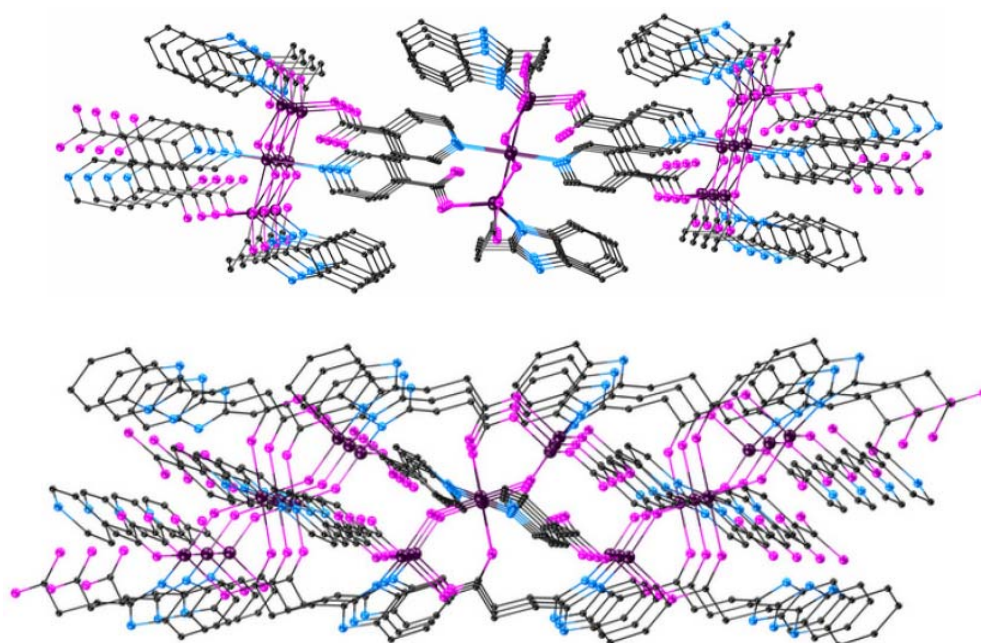


Figure S1 The two-dimensional skeleton of **1** viewed along the *a* (upper), and *b*-axis (under).

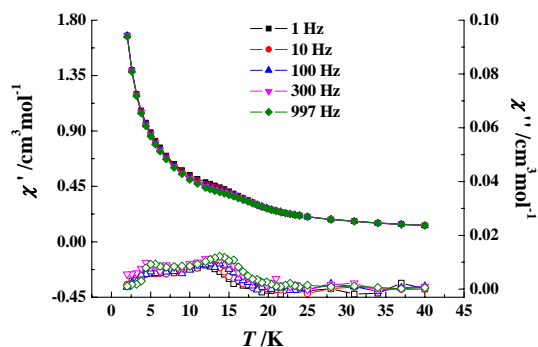


Figure. S2 Temperature dependence of ac magnetic susceptibility measured at zero applied *dc* field and 2 Oe *ac* field with different frequencies from 1-997 Hz.

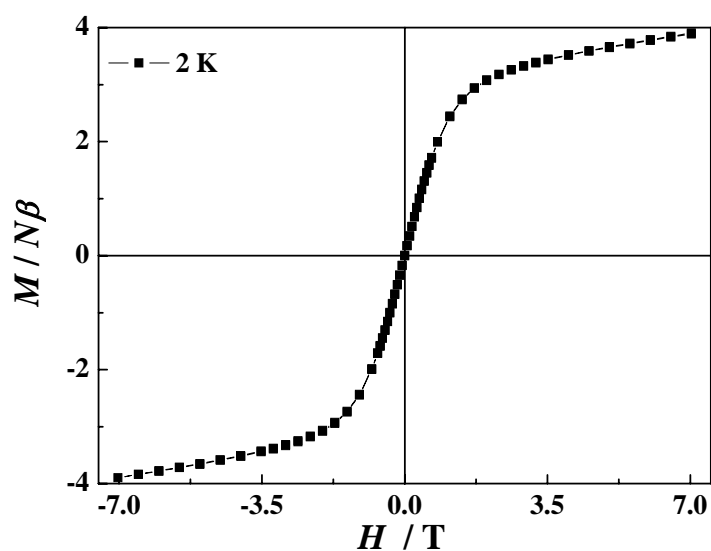


Figure S3. Field dependence of magnetization at 2 K for **1**. No detected hysteretic loop was observed.

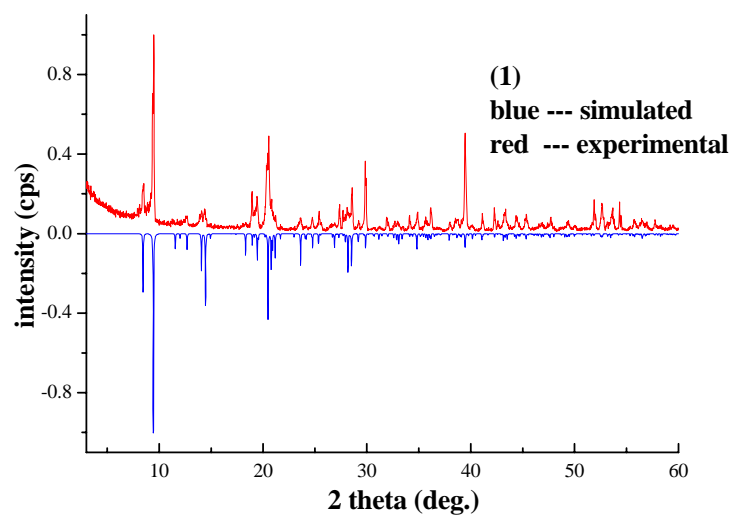


Figure S4. The experimental (upper) and simulated (lower) powder X-ray diffraction patterns of **1**.