Supporting Information

Synthesis and crystal structure of poly[[bis(aqua-κO)tetrakis(μ-4,4′-bipyridine)-$\kappa^2 N$:N')hexakis (3-chlorobenzoato)-$\kappa^5 O$;$\kappa^2 O$:O'-tricobalt(II)] methanol disolvate]

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Experiment:

All chemicals and solvents were of analytical grade purchased commercially and used without further purification. Elemental analyses (C, H and N) were performed on a Perkin-Elmer PE-2400 CHNS/O analyses. IR data were recorded on a Perkin Elmer infrared spectrophotometer with KBr pellets in the 400–4000 cm^{-1} region. Powder X-ray diffraction pattern was obtained on PAN analytical Empyrean X-ray diffractometer in the 2theta range of 5-50° at room temperature and X-ray structure data analysis of the suitable single crystal was collected with a Bruker D8 Advance A25, using Mo-Kα radiation (λ = 0.71073 Å) at 296 K. Electronic spectra were recorded on Shimadzu UV-2600 UV-vis spectrophotometer in the range of 400-1100 cm^{-1}. TGA data was obtained on a TG-DTA 2010S MAC apparatus and Hitachi STA7200 thermal analyzer between 35-800°C in N_2 atmosphere with heating rate of 10 °C/min.

Figure Caption

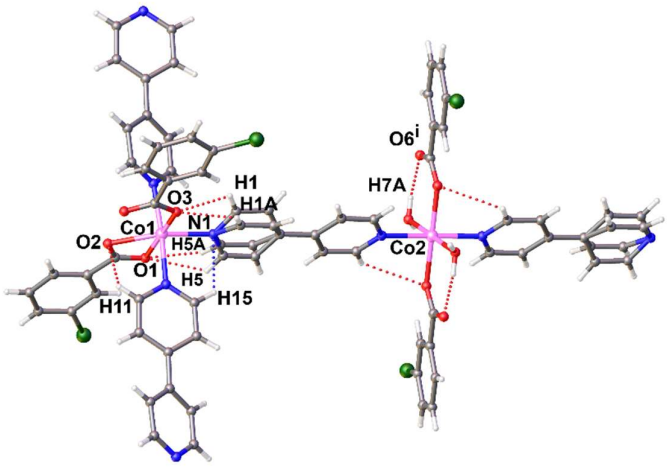

Figure S1. Representation of intramolecular hydrogen bonding interactions and hydrogen bonding between methanol lattice solvent and 3-Clbenz of the title compound. (Symmetry code (i) 1-x, 2-y, -z)

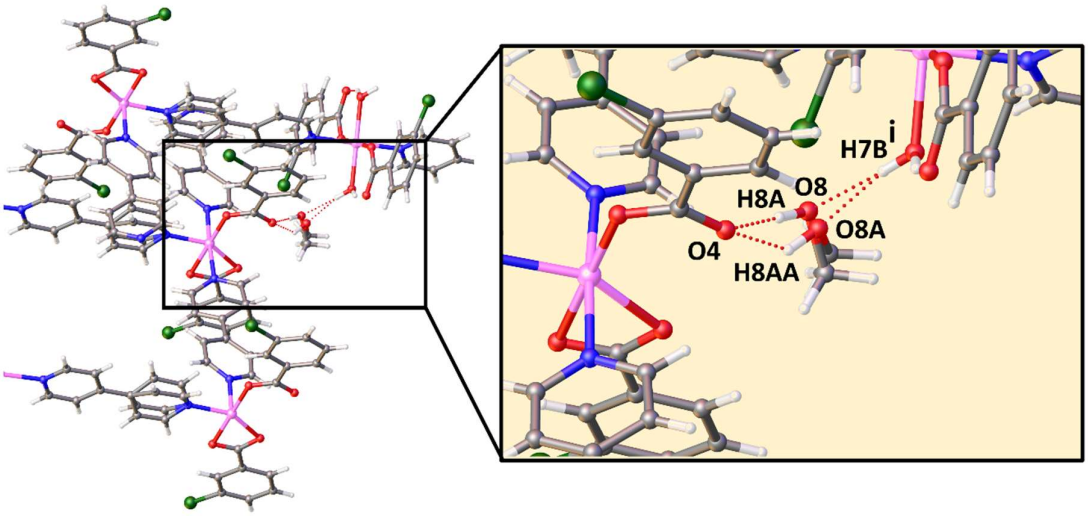

Figure S2. Representation of intermolecular hydrogen bonding interactions between methanol lattice solvent and the ladder chains (Symmetry code: (i) 1-x, 2-y, 1-z)

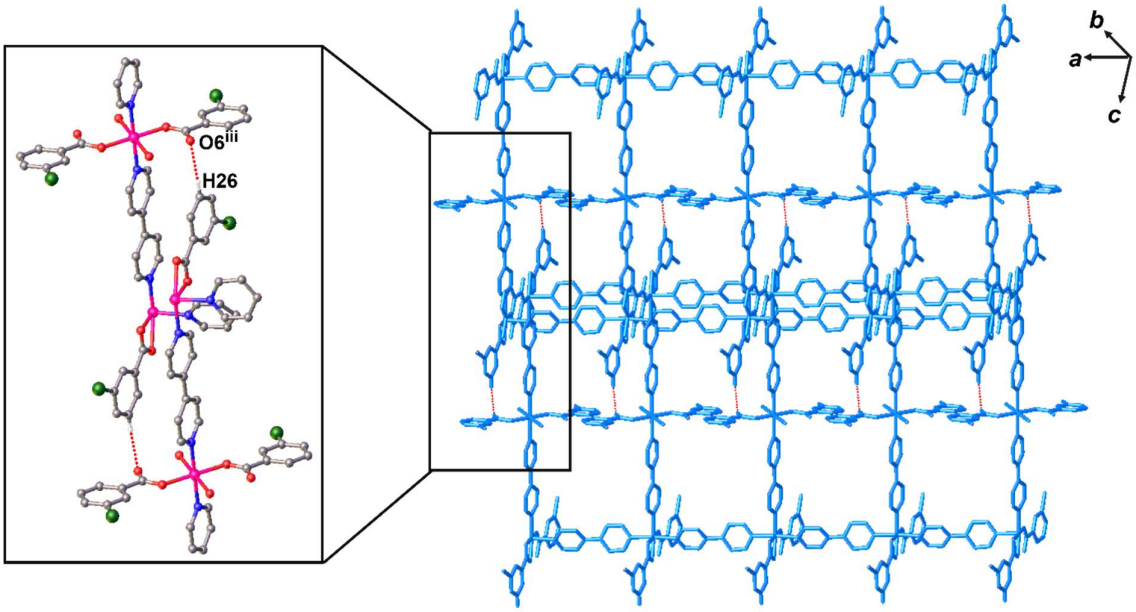

Figure S3. Representation of intermolecular hydrogen bonding interactions between adjacent ladder chains with C26-H26···O6^{iii} (Symmetry code: (iii) *x*, *y*-1, *z*+1)

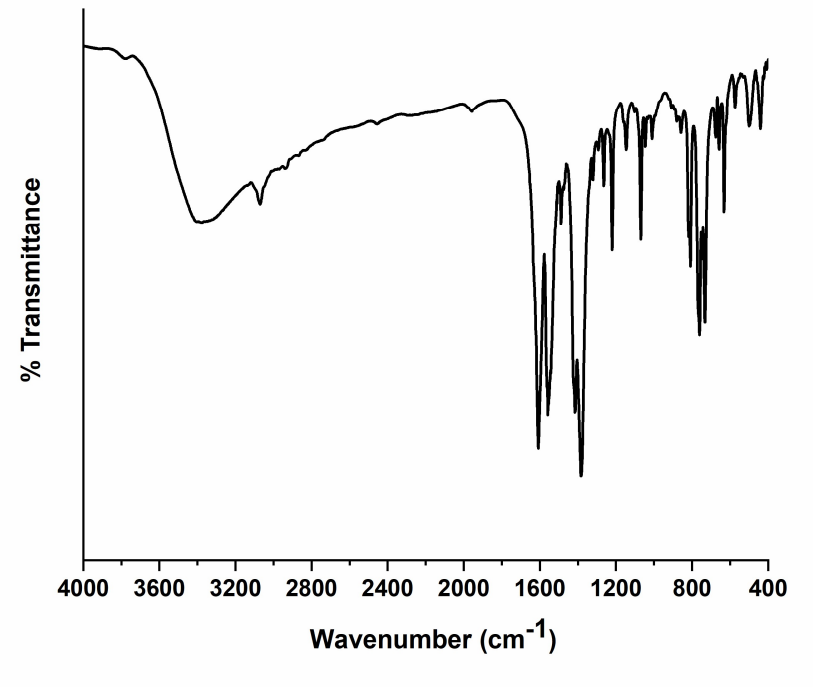

Figure S4. FT-IR spectrum of the title compound

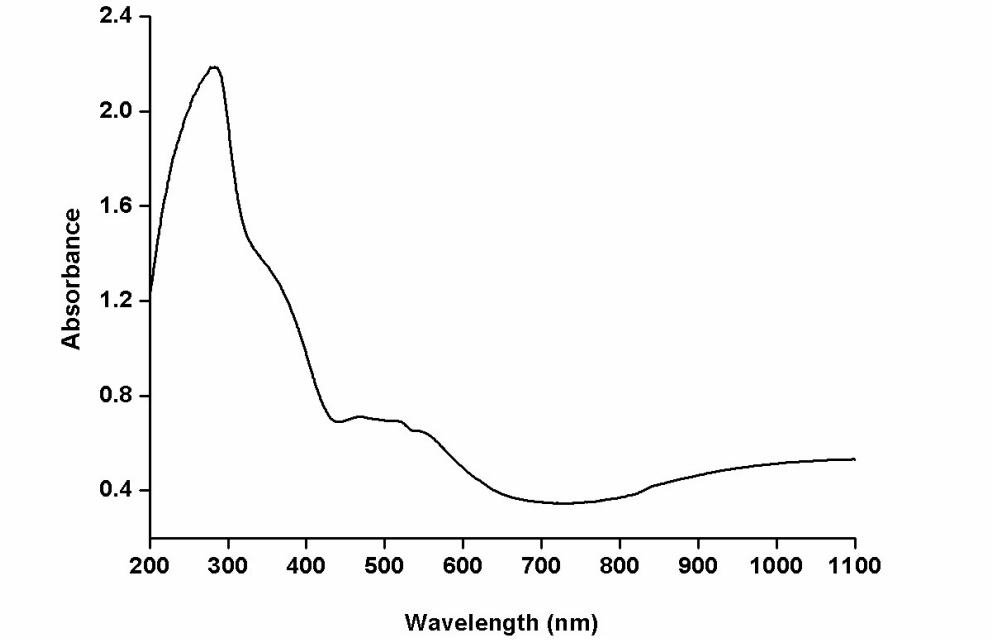

Figure S5. Solid state diffuse reflectance spectrum of the title compound

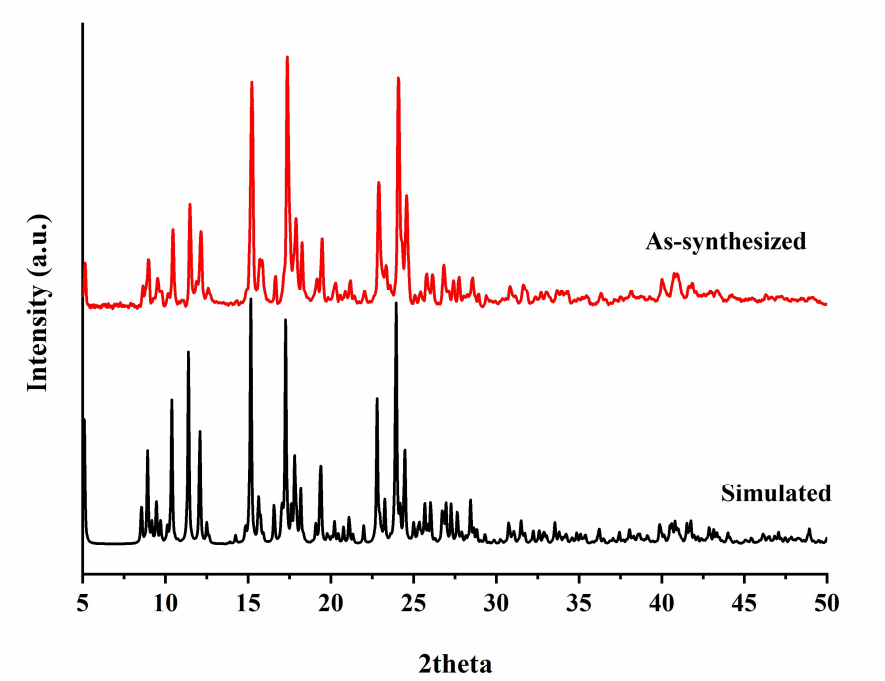

Figure S6. Powder XRD patterns of the title compound

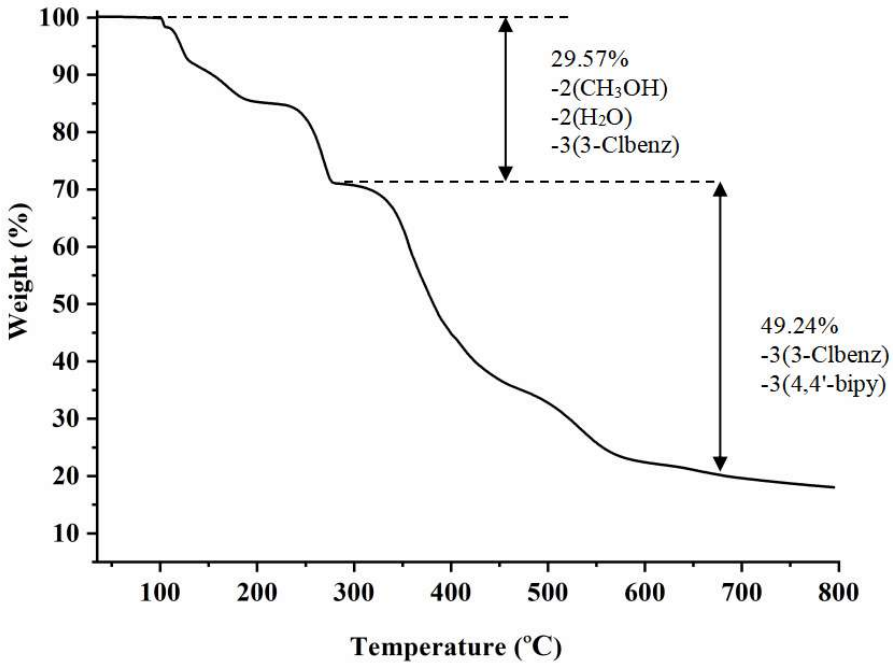

Figure S7. TGA curve of the title compound