Electronic Supplementary Information (ESI)

Assembly of a series of zinc coordination polymers based on 1,4-bis[2-(4-pyridyl)ethenyl]-2,3,5,6-tetramethylbenzene and 1,3-benzenedicarboxylate derivatives

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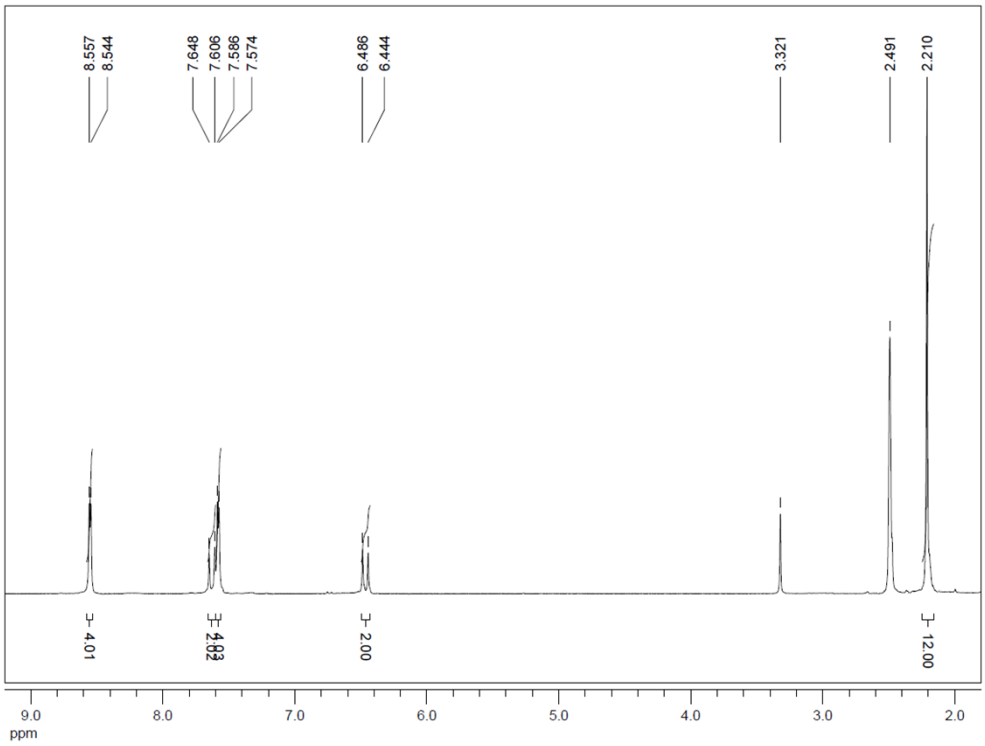
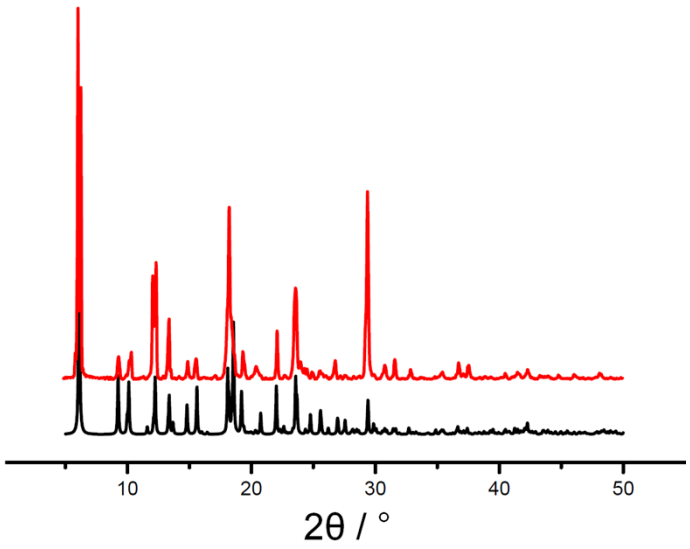


Fig. S1 The ^{1}H NMR spectrum of 1,4-bpetmb in d_6-DMSO at ambient temperature.

(a)



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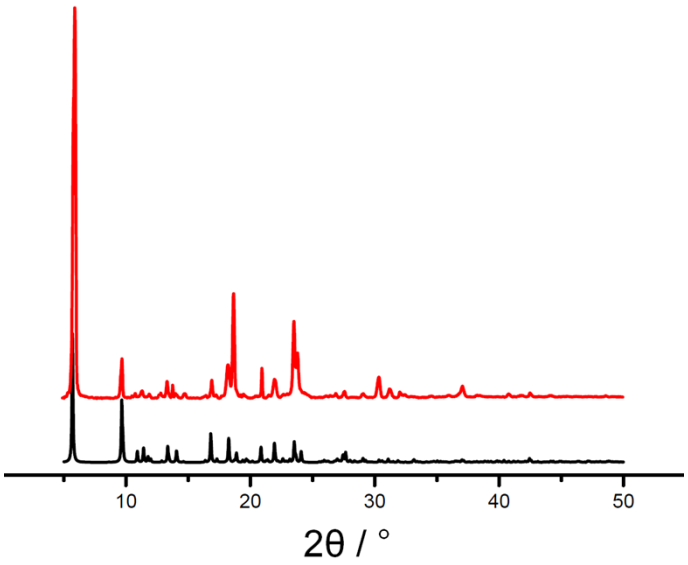

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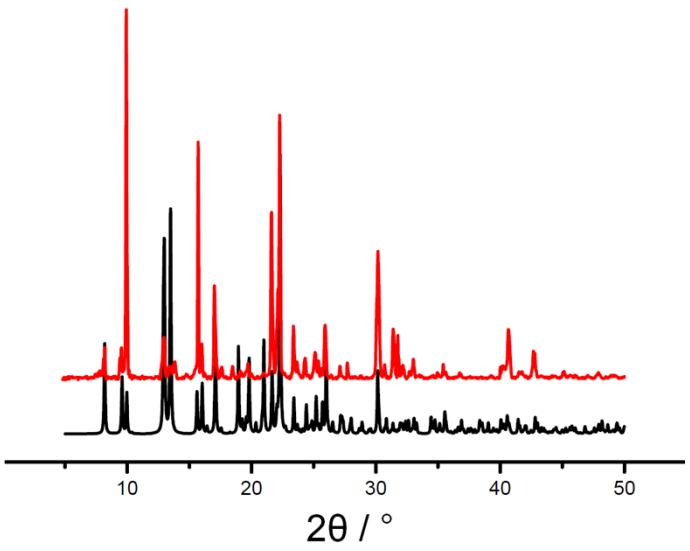

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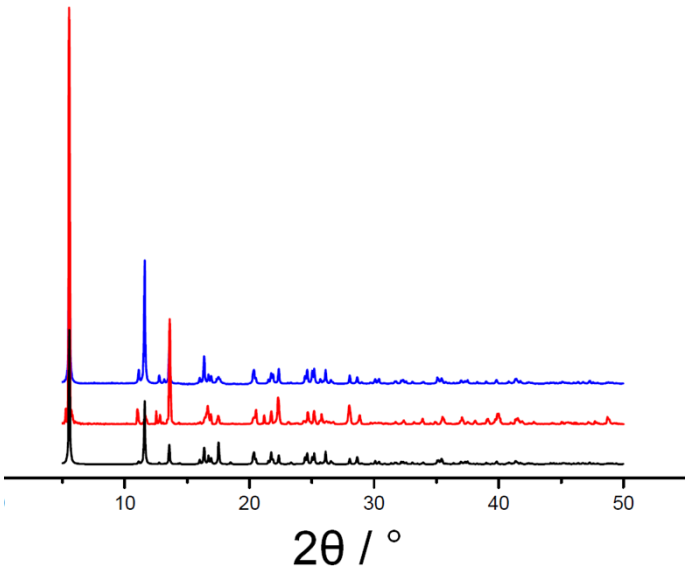

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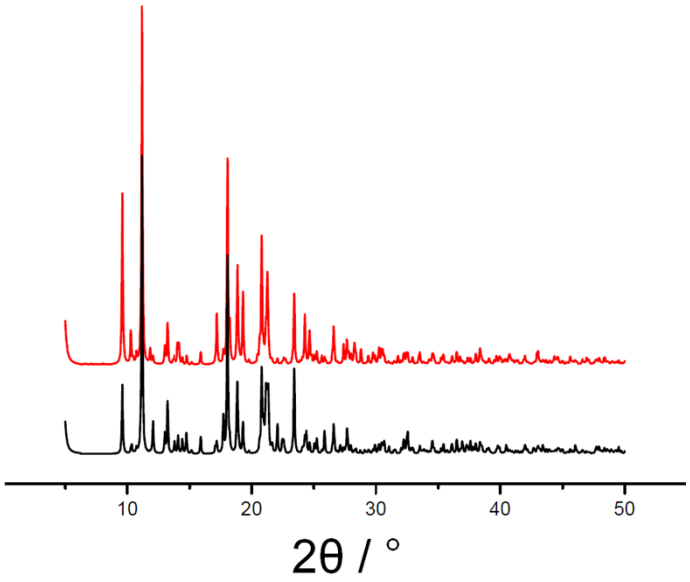


Fig. S2 PXRD patterns for **1** (a, experimental: red; simulated: black); **2** (b, experimental: red; simulated: black); **3** (c, experimental: red; simulated: black); **4** (d, experimental: red; simulated: black; desolvated sample: blue) and **5**(e, experimental: red; simulated: black).

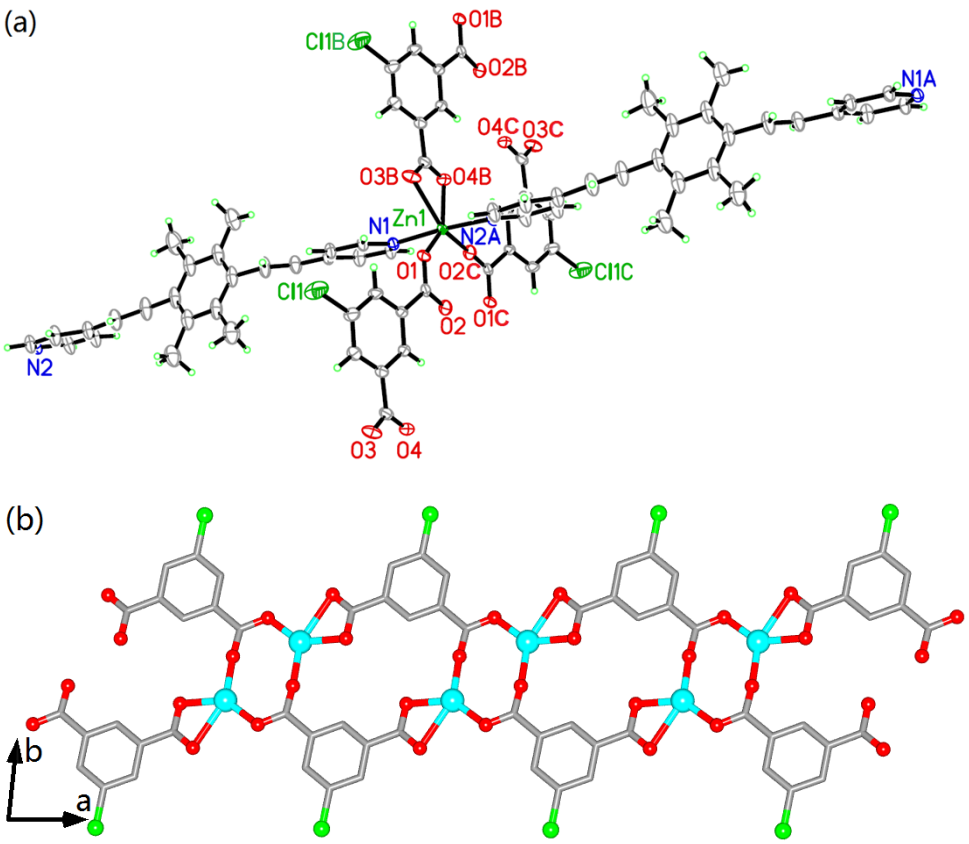
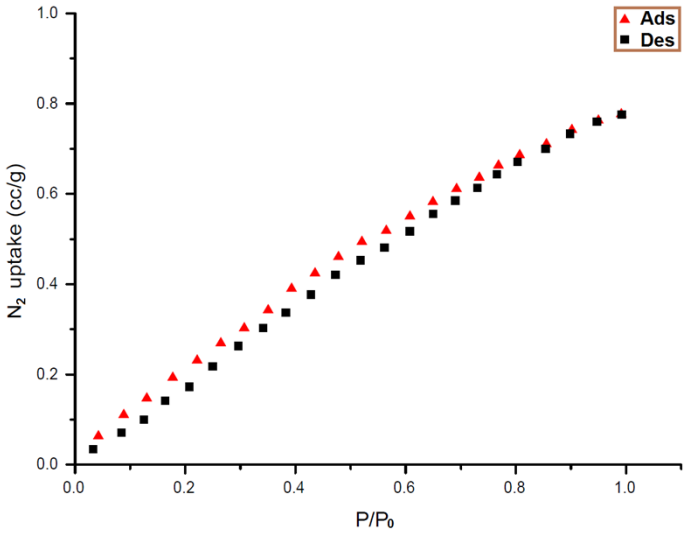


Fig. S3 (a) View of the coordination environment of Zn1 in **2** with labeling scheme. (b) View of the 1D $[Zn(5\text{-}Cl\text{-}1,3\text{-}BDC)]_n$ chain in **2**. All hydrogen atoms are omitted for clarity. The cyan, red, blue and green balls represent zinc, oxygen, nitrogen and chlorine atoms, respectively. Symmetry codes: (A) x - 1, y + 1, z + 1; (B) x - 1, y, z; (C) - x + 1, - y + 2, - z + 1.

Gas adsorption was measured by N_2 and CO_2 sorption using Micromeritics ASAP 2020 system. The sample was heated to 150°C under vacuum for 12 h to remove the solvents.

(a)



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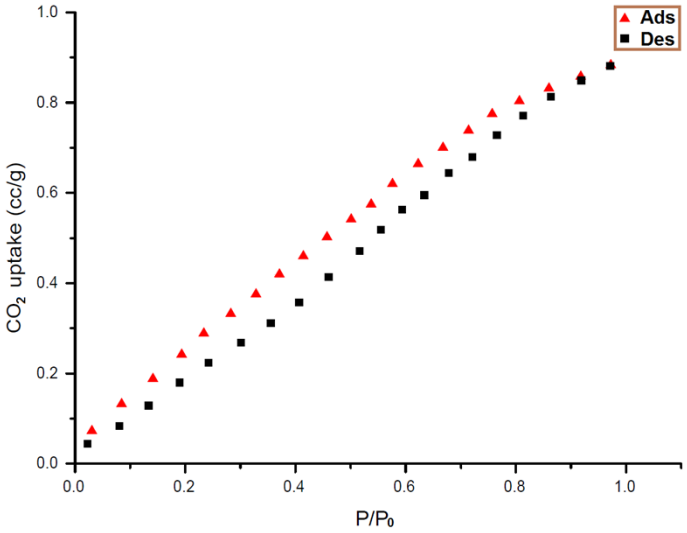

Fig. S4 (a) N_2 sorption isotherms for **4** at 77K. (b) CO_2 sorption isotherms for **4** at 273K.

The gas uptake of both N_2 and CO_2 were negligible. The kinetic diameter of N_2 and CO_2 are 3.68 Å and 3.4 Å, respectively. Thus, N_2 and CO_2 molecules could not access the small pores in **4**.

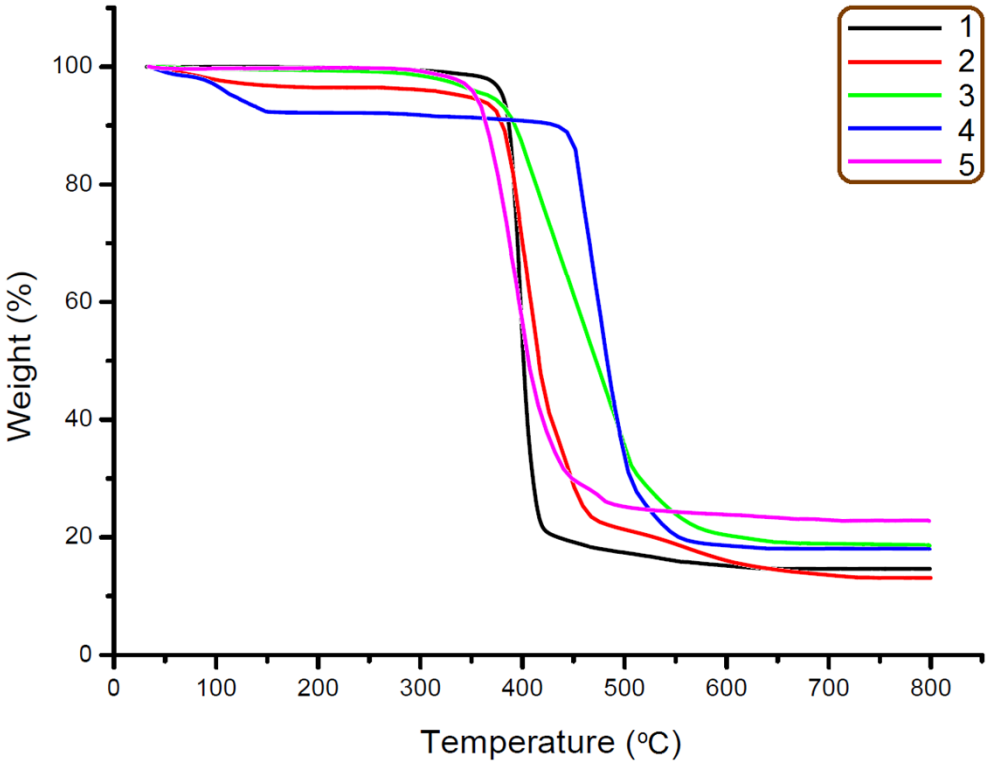

Fig. S5 The TG curves for **1-5**.