## **Electronic Supplementary Information**

## **Unprecedented 3D entanglement of 1D zigzag coordination polymers leading to a robust microporous framework**

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Fig. S1 View showing the 3D framework of 1 with open channels along c direction. DMSO has been omitted



**Fig. S2** TGA plots of **1**·DMSO (a) and **1**·DMF (b) over the temperature range from 30 to 500 °C at a heating rate of  $\beta = 3$  °C/min under the N<sub>2</sub> atmosphere. **1**·DMF was obtained by immersing the evacuated material in DMF for 10 h.

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Fig. S3 IR Spectra of the as-synthesized sample 1·DMSO, the evacuated sample 1, and the re-solvated sample. The bands marked with asterisks are attributable to the v(CH<sub>3</sub>) absorptions (3000 and 2910 cm<sup>-1</sup>) and the v(S=O) absorption (1030 cm<sup>-1</sup>), clearly indicating the presence of DMSO molecules in the as-synthesized and the re-solvated samples.



**Fig. S4** XRD pattern for (a) **1** (evacuated at 120 °C under vacuum for 24 h), and (b) **1**·DMF (obtained by immersing **1** in DMF for 10 h)

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**Fig.S5** Comparison of the IR Spectra of the evacuated sample **1** (a), and the re-solvated **1**·DMF obtained by immersing **1** in DMF for 10 h (b). The band (1660 cm<sup>-1</sup>) marked with asterisk is attributable to the v(C=O) absorption of the DMF molecules in **1**·DMF.