

A Series of Hybrids with a Framework Constructed from $\{-\text{SiW}_{11}\text{-Ln-SiW}_{11}-\}_n$ Chains and $\{\text{Cu/bimpy}\}$ Ribbons

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Electronic Supplementary Information

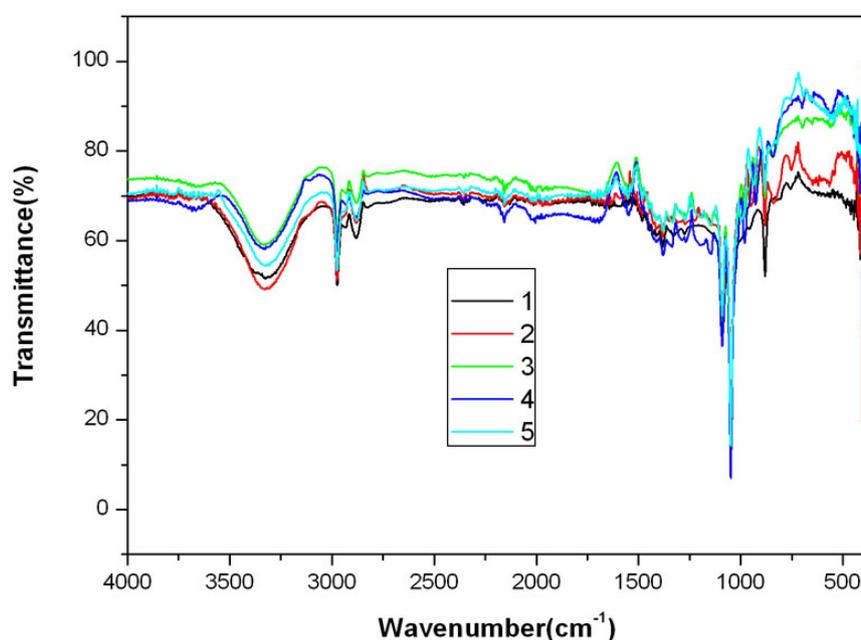


Fig. S1 IR spectra of compounds 1-5.

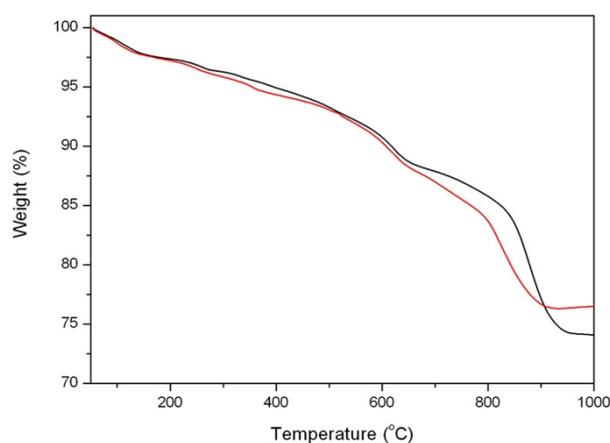


Fig. S2 The TG curves of compounds 1 (red) and 2 (black).

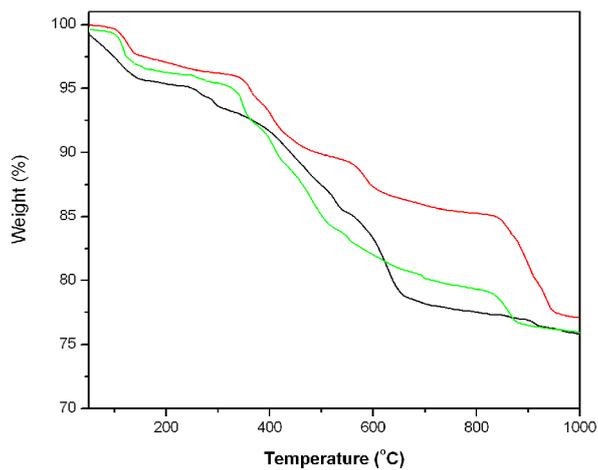


Fig. S3 The TG curves of compounds **3** (red), **4** (black) and **5** (green).

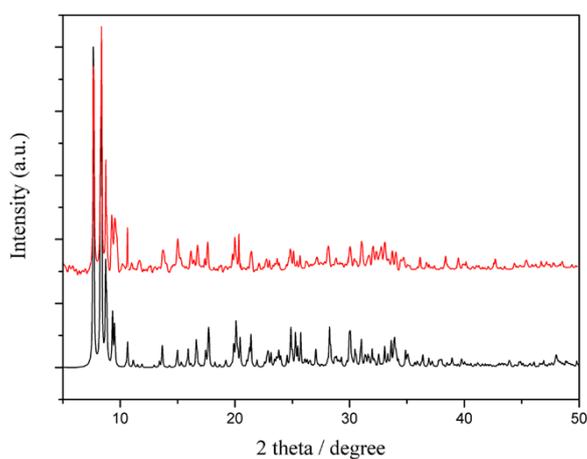


Fig. S4 The experimental (red line) and simulated (black line) PXRD patterns obtained from compound **1**.

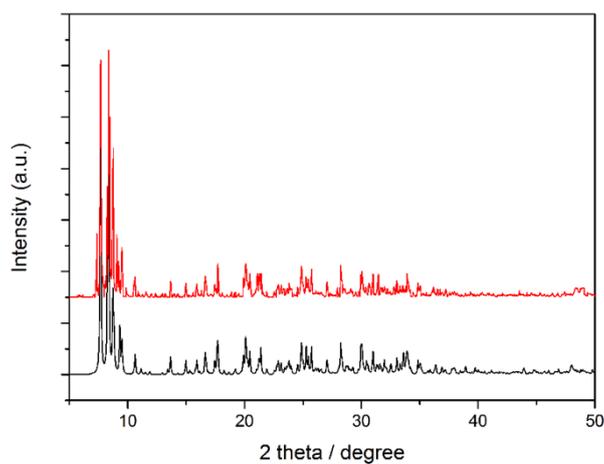


Fig. S5 The experimental (red line) and simulated (black line) PXRD patterns obtained from compound **2**.

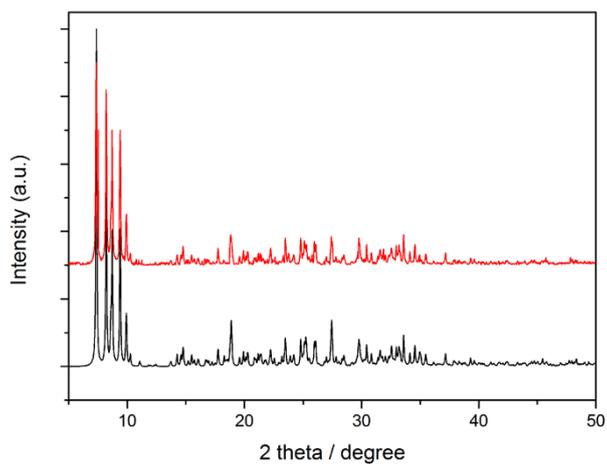


Fig. S6 The experimental (red line) and simulated (black line) PXRD patterns obtained from compound **3**.

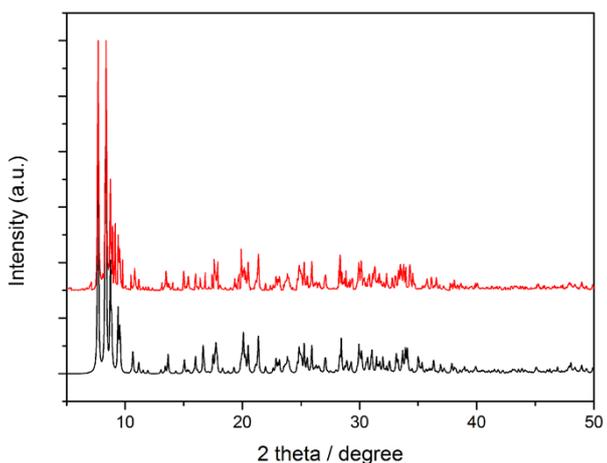


Fig. S7 The experimental (red line) and simulated (black line) PXRD patterns obtained from compound **4**.

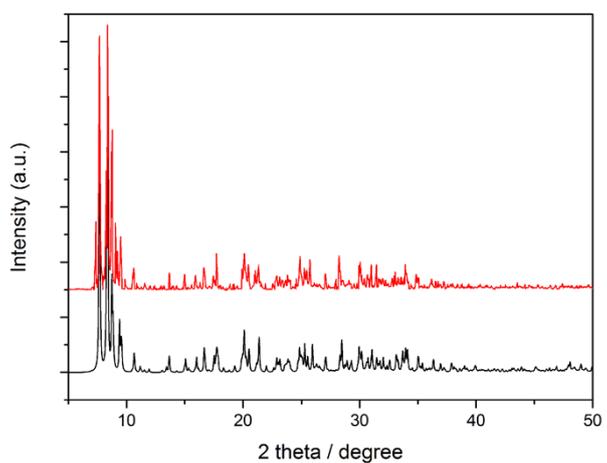


Fig. S8 The experimental (red line) and simulated (black line) PXRD patterns

obtained from compound **5**.

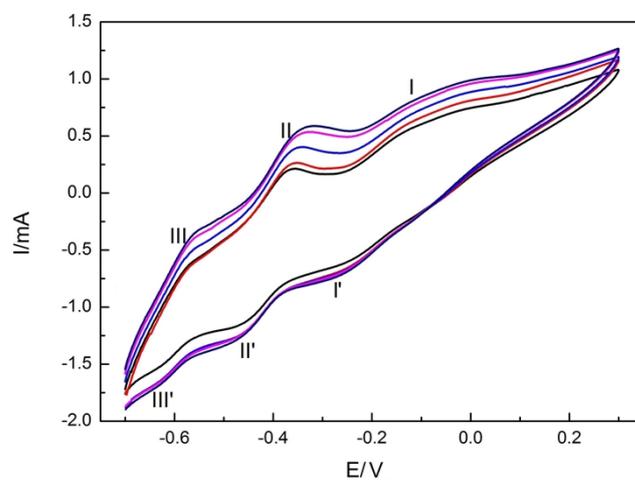


Fig. S9 The cyclic voltammograms of **1-CPE** in 1M H₂SO₄ solution at different scan rates (from inner to outer: 0.08, 0.12, 0.14, 0.16V·S⁻¹).

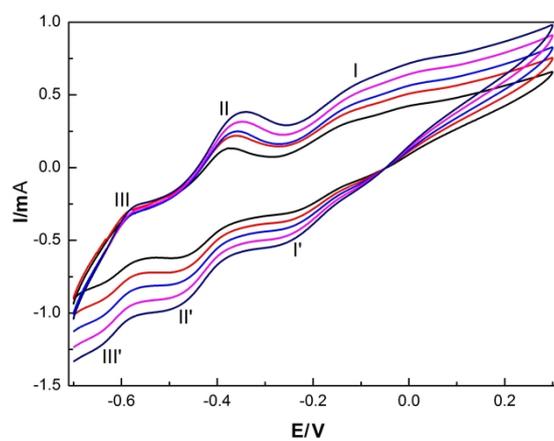


Fig. S10 The cyclic voltammograms of **2-CPE** in 1M H₂SO₄ solution at different scan rates (from inner to outer: 0.08, 0.12, 0.14, 0.16V·S⁻¹).

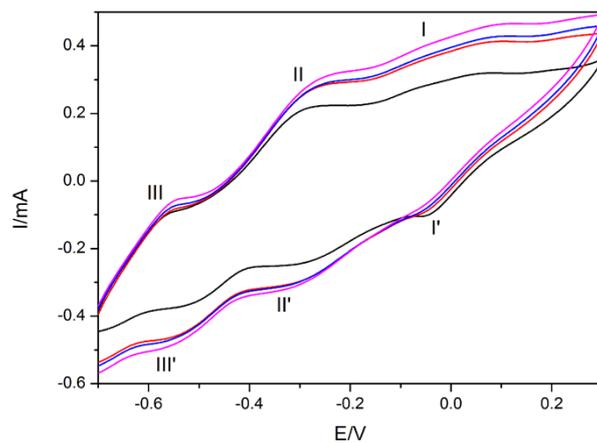


Fig. S11 The cyclic voltammograms of **3-CPE** in 1M H₂SO₄ solution at different scan rates (from inner to outer: 0.08, 0.12, 0.14, 0.16V·S⁻¹).

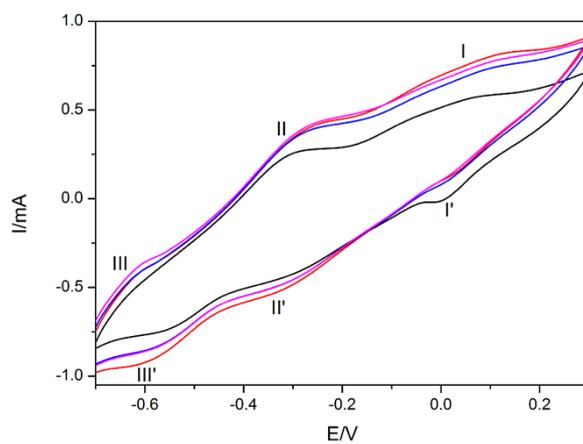


Fig. S12 The cyclic voltammograms of **4-CPE** in 1M H₂SO₄ solution at different scan rates (from inner to outer: 0.08, 0.12, 0.14, 0.16V·S⁻¹).

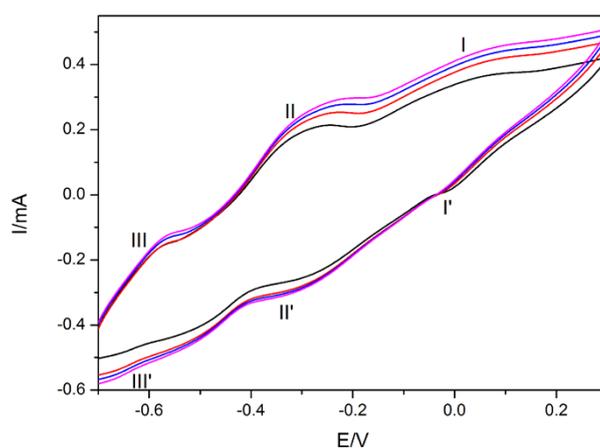


Fig. S13 The cyclic voltammograms of **5-CPE** in 1M H₂SO₄ solution at different scan rates (from inner to outer: 0.08, 0.12, 0.14, 0.16V·S⁻¹).

Table S1 Bond valence sum (BVS) calculations of all Ln, Cu and W atoms in compounds **1–5**.

Atoms	BVS values (1)	BVS values (2)	BVS values (3)	BVS values (4)	BVS values (5)
Ln	3.07	3.08	2.98	3.06	3.08
Cu1	2.05	2.04	2.12	2.02	2.00
Cu2	2.04	2.05	2.04	2.02	1.99
Cu3	2.00	2.01	2.00	2.01	2.00
W1	6.25	6.05	6.29	6.21	5.91
W2	6.34	5.96	6.11	6.33	6.19
W3	6.22	6.20	6.33	6.10	6.15
W4	6.09	6.21	6.25	6.15	6.33
W5	6.32	6.19	6.24	6.19	6.24
W6	6.28	6.30	6.30	6.31	6.20
W7	6.20	6.11	6.14	6.49	6.21
W8	6.25	5.95	6.20	6.03	6.24
W9	6.37	6.32	6.39	6.03	6.38
W10	6.27	6.06	6.08	6.16	6.25
W11	6.18	6.04	6.10	6.19	6.25