## Dual-ligand strategies to assemble S, N-containing metal

## organic frameworks nanoflower for hybrid supercapacitors

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Fig. S1 TEM image of (a) MOF1; (b) MOF2 and (c) MOF3; HRTEM image of (d) MOF1; (e) MOF2 and (f) MOF3



**Fig. S2** (a) XPS survey spectrum; (b) high-resolution of C 1s XPS spectrum; (c) high-resolution of N 1s XPS spectrum; (d) high-resolution of O 1s XPS spectrum; (e) high-resolution of S 2p XPS spectrum, and (f) high-resolution of Ni 2p XPS spectrum of MOF1



**Fig. S3** (a) XPS survey spectrum; (b) high-resolution of C 1s XPS spectrum; (c) high-resolution of N 1s XPS spectrum; (d) high-resolution of O 1s XPS spectrum; (e) high-resolution of S 2p XPS spectrum, and (f) high-resolution of Ni 2p XPS spectrum of MOF3



Fig. S4 CV curves of (a) MOF1 and (b) MOF3 with the scan rates from 5 mV s<sup>-1</sup> to 50 mV s<sup>-1</sup>; GCD curves of (c) MOF1 and (d) MOF3 with the current densities from 0.5 to 10 A g<sup>-1</sup>



Fig. S5 SEM image of MOF2 after electrochemical testing