

Supporting Information

Redox active azo-based metal-organic frameworks as anode materials for lithium-ion batteries

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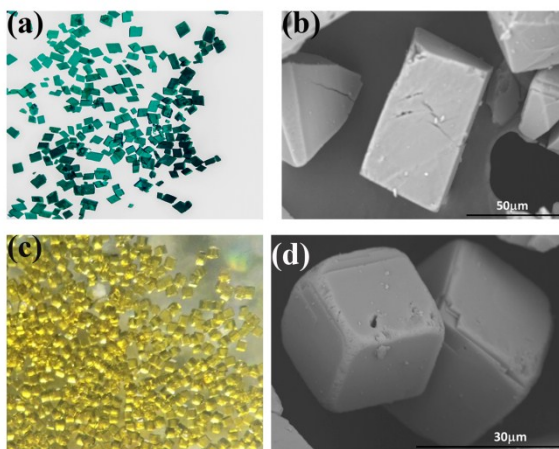


Fig. S1 (a) The optical microscope image of **1**; (b) SEM image of **1**; (c) The optical microscope image of **2**; (d) SEM image of **2**.

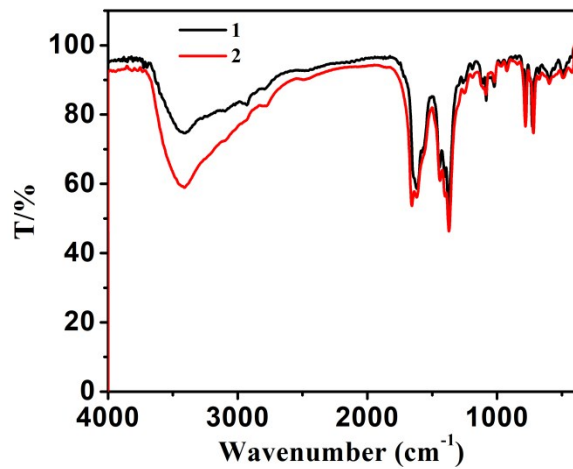


Fig. S2 FT-IR spectra in 1 and 2.

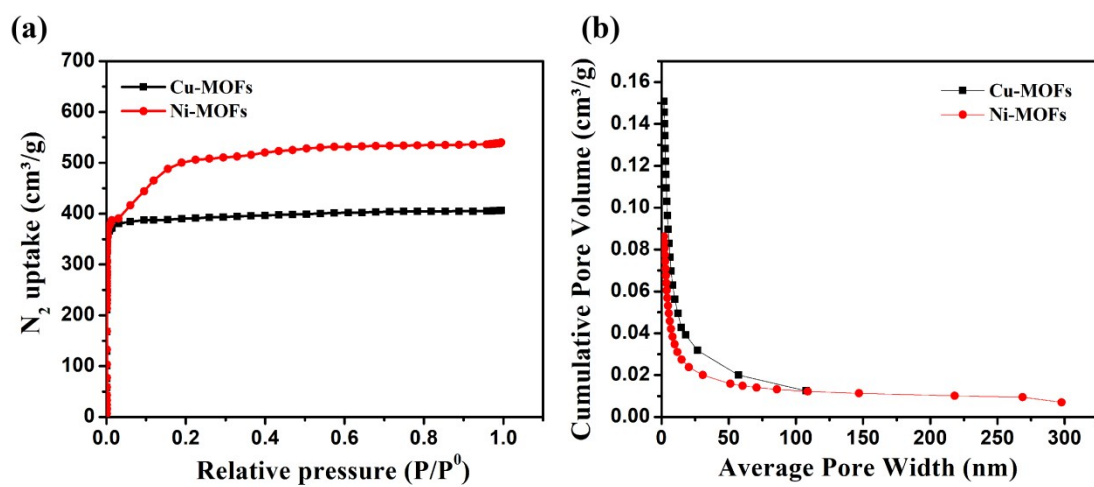


Fig. S3 (a) N₂ adsorption isotherms; (b) Pore size distributions in Cu-MOFs and Ni-MOFs.

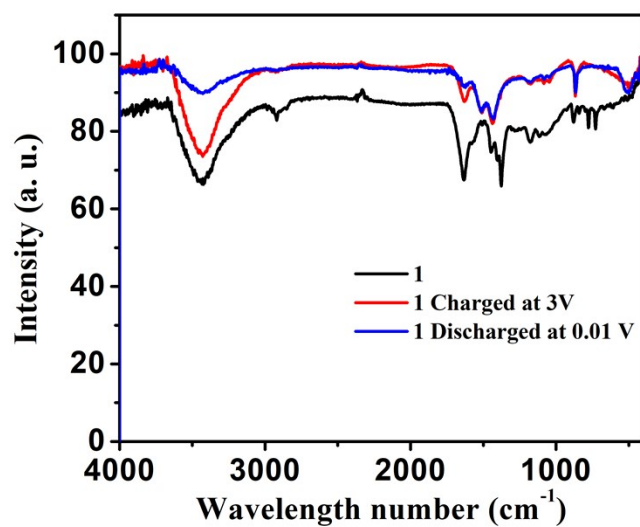


Fig. S4 FT-IR spectra of **1** electrode.

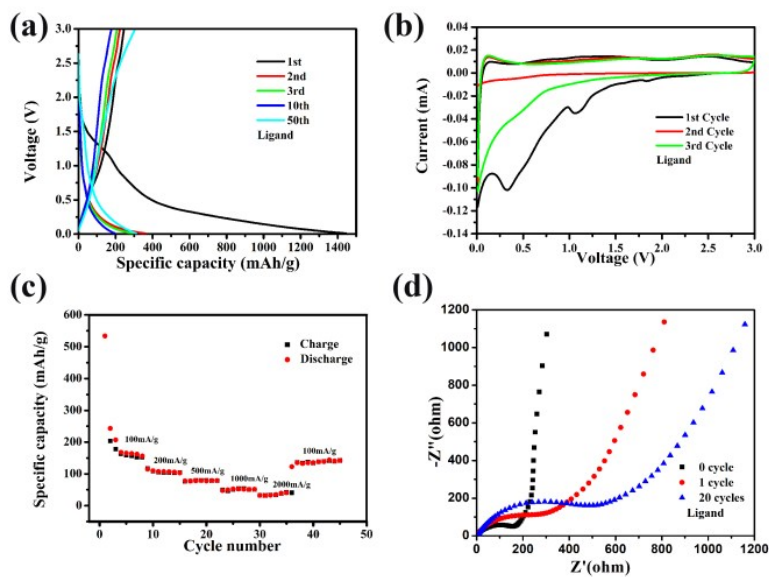


Fig. S5 (a) Galvanostatic discharge-charge curves of ligand; (b) CV curves of ligand at a scan rate of 0.1 mV s^{-1} ; (c) Rate performance of ligand at different current densities; (d) Nyquist plots of the ligand electrode.

Table S1. Comparison capacity of pristine MOFs as anode materials for LIBs and other reported work.

Materials	Current density (A g ⁻¹)	Cycle no.	Capacity (mAh·g ⁻¹)		Ref
			Initial cycle	Final cycle	
Cu-MOFs	0.1	500	1027.7	480	This work
Ni-MOFs	0.1	500	1560.6	760	This work
MOF-177	0.05	50	400	105	39
Co/Mn-MOFs	0.1	200	1170–1400	580–595	40
Si@MOF	0.2	500	1050	830	41
F-doped Mn-MOF	0.1	100	927	727	42
Pb-MOF	0.1	500	1522	489	43
NNU-11	0.05	200	1322.3	750	44
Co-Zn-MOF	2.0	500	2,289	622	45
CoBTC	2.0	500	1790.3	473	46
Mn-UMOFNs	0.1	300	1187	818	47
Ni-UMOFNs	0.1	300	1833	346	
Cd(HHTPCA)	0.1	100	710	302	48
Ni-BHC	0.1	50	1261.3	910.4	49
Mn-BTC	0.103	100	1717	694	50
NENU-507	0.1	100	1008	640	51
[Cu ₁₀ (H ₃ trz) ₄ (Htrz) ₄](HPW ₁₂ O ₄₀)	0.1	100	1620	570	52
[Cu ₁₀ (H ₃ trz) ₄ (Htrz) ₄](H ₂ SiW ₁₂ O ₄₀)	0.1	100	1245	426	