

Supporting information

Nickel-based metal-organic framework-derived Ni/NC/KB as separator coating for lithium-sulfur batteries

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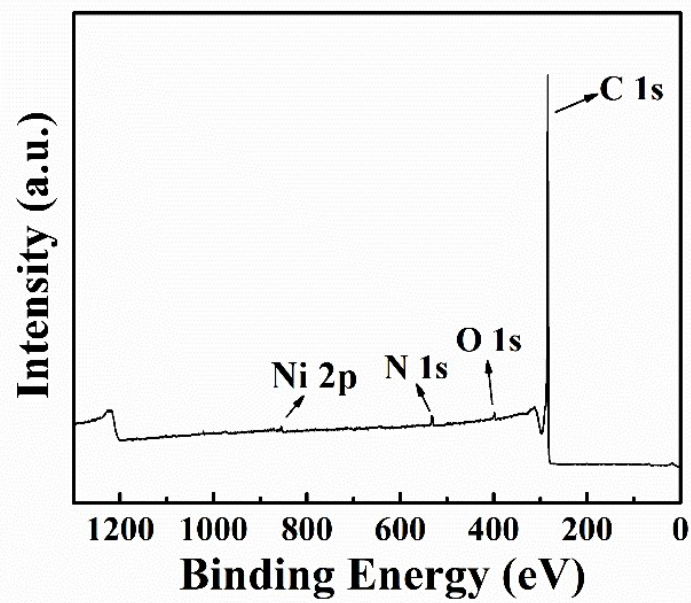


Fig. S1. XPS survey.

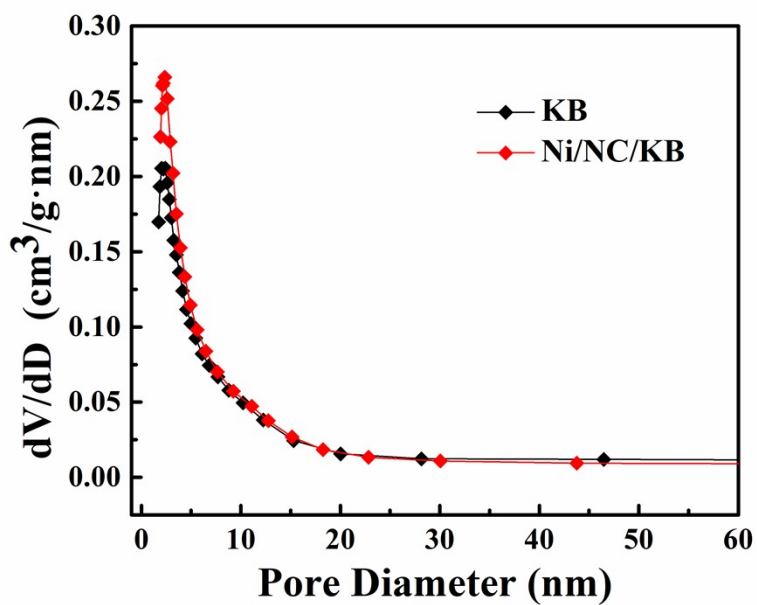


Fig. S2. Pore size distribution of Ni/NC/KB and KB.

Table S1. Comparison of cyclabilities of previous MOFs or MOFs derivatives as separator coating and our reports on Li-S Cells.

Separator coating	Rate	Cycles	Final capacity (mAh/g)	References
UiO-66-S/Nafion	0.2 C	200	872.3	S1
Ni ₃ (HITP) ₂	0.5 C	300	585.4	S2
Y-FTZB	0.25 C	300	557	S3
Co ₃ O ₄ -350/PI/LLZO	0.1 C	200	630	S4
B/2D MOF-Co	0.5 C	200	703	S5
Ni/NC/KB	1 C	500	653.7	This work

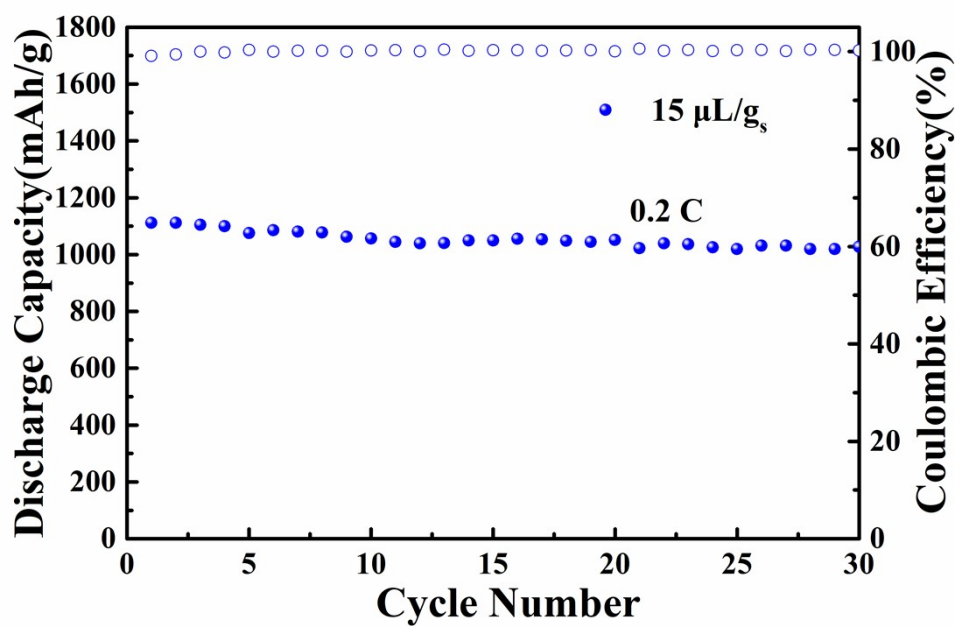


Fig. S3. Cycling performance of Ni/NC/KB separator with 15 μL g_s⁻¹ at 0.2 C.

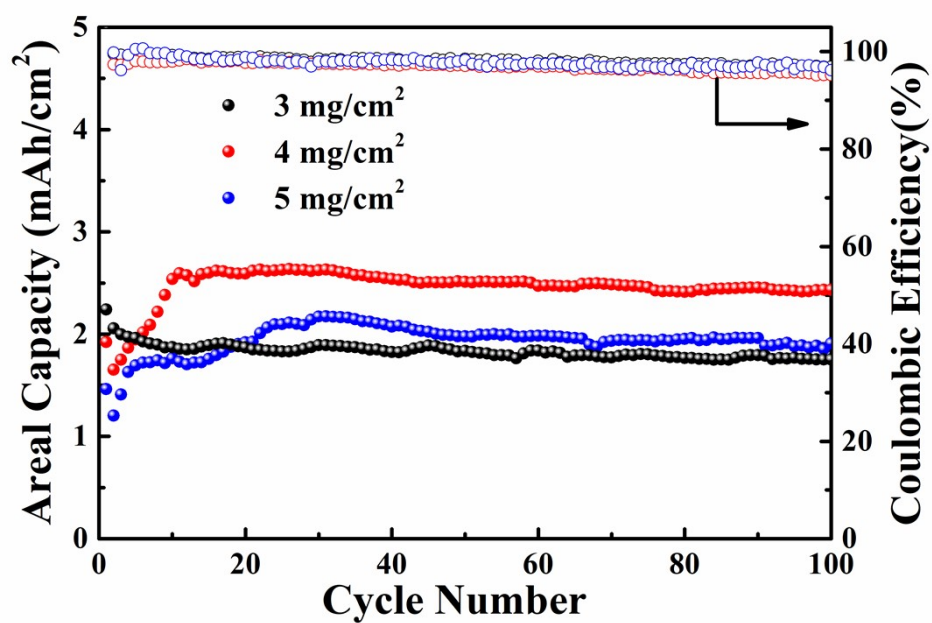


Fig. S4. Areal capacity of Ni/NC/KB separator with different areal sulfur loading at 0.5 C.

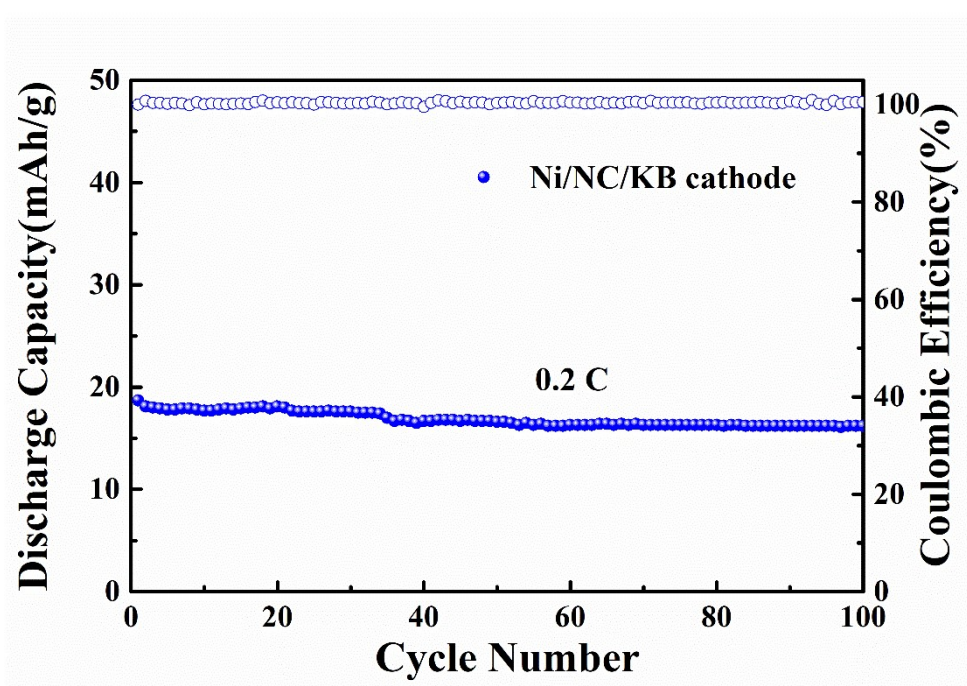


Fig. S5. Cycling performance of Ni/NC/KB cathode at 0.2 C.

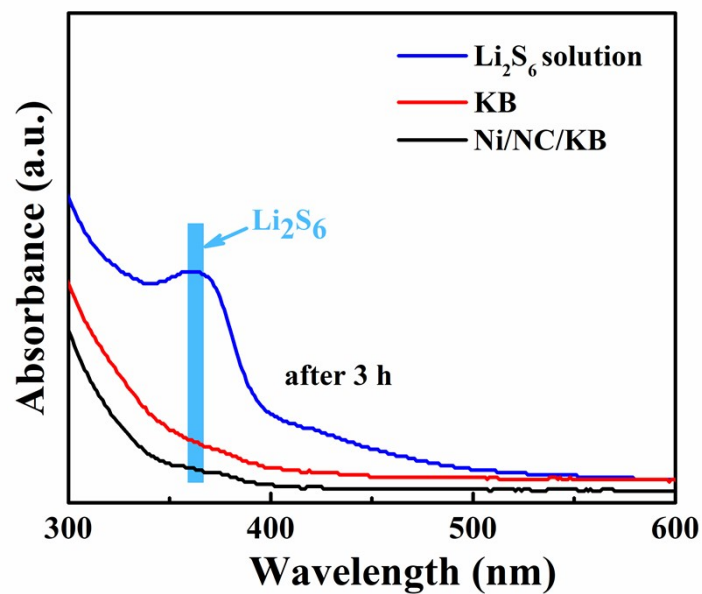


Fig. S6. The UV-vis absorption spectra of Ni/NC/KB, KB and Li₂S₆ solution after 3 h adsorption.

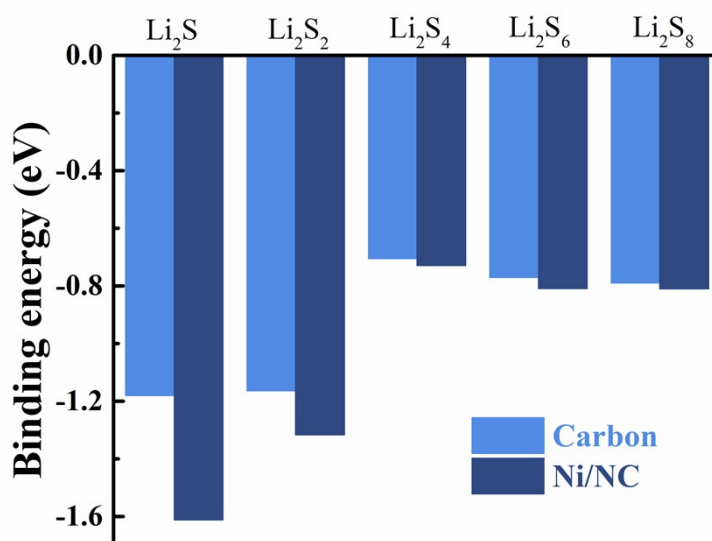


Fig. S7. The binding energy of polysulfides absorbed by carbon and Ni/NC.

Reference

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