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Supporting Information for

Biology cells derived N-doped hollow porous carbon microspheres for Lithium-Sulfur batteries

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Fig. S1 Cultivation process of yeast in glucose solution (marked in red) and without glucose solution at 0 min, 10min, 30 min, 45 min, 120 min. Without glucose, the yeast cells did not show observable change.

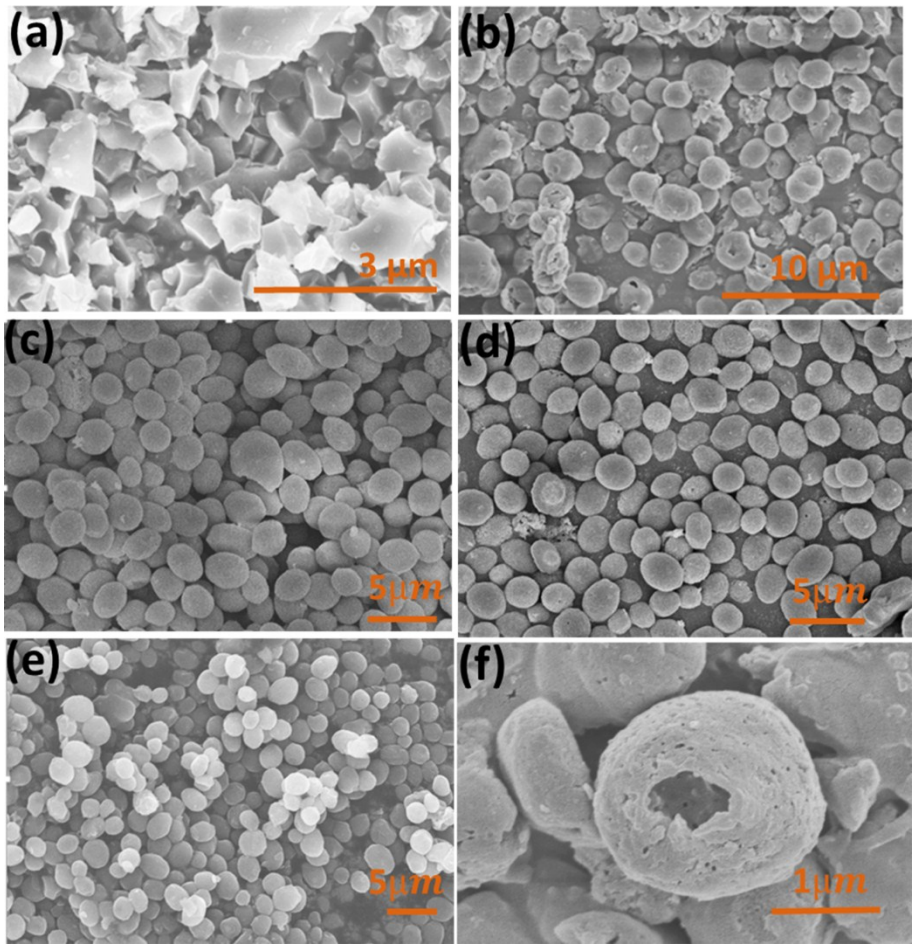

Fig. S2 SEM images of products without peroxidation process in air (a); hollow carbon spheres with pure water as solvent without GA (b); From the SEM images, almost all of the NHCM-5, NHCM-3, and NHPCM-5 could be the integral elliptical morphology (c-e); SEM image of NHPCM-5 after violent ball-milling (f).

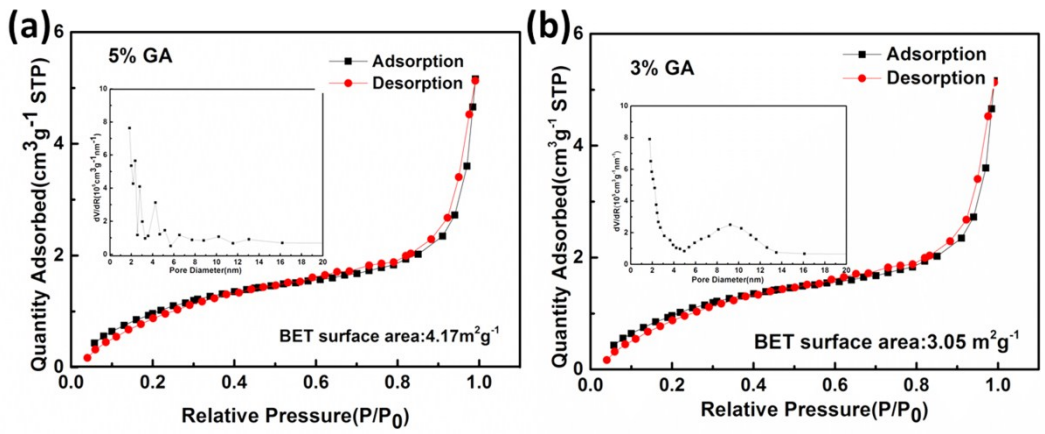

Fig. S3 N_2 adsorption/desorption isotherms of NHCM-5 (a) and NHCM-3 (b). The insets are pore-size distributions.

Table S1. Specific surface area and Pore volume of NHPCM-3 and NHPCM-5.

Sample	S_{BET}[a] (m^2/g)	V_{micro}[b] (cm^3/g)	V_{meso}[c] (cm^3/g)	V_{total}[c] (cm^3/g)	V_{micro}[b]/ V_{total}[c]
NHPCM-3	615	0.30	0.32	0.62	0.48
NHPCM-5	721	0.57	0.29	0.86	0.66

[a] BET specific surface area [b] microporous volume [c] Total pore volume

Table S2. Elemental analysis of pristine yeast, NHCM, NHPCM and NHPCM@S composites.

Samples	C (wt %)	N (wt%)	H (wt%)	N/C (at/at)
Pristine yeast	44.3	7.56	6.86	0.14
NHCM	68.69	6.91	7.43	0.08
NHPCM	76.10	9.08	1.84	0.10
NHPCM@65%S	26.08	3.24	0.72	0.10
NHPCM@75%S	19.10	2.45	0.53	0.10

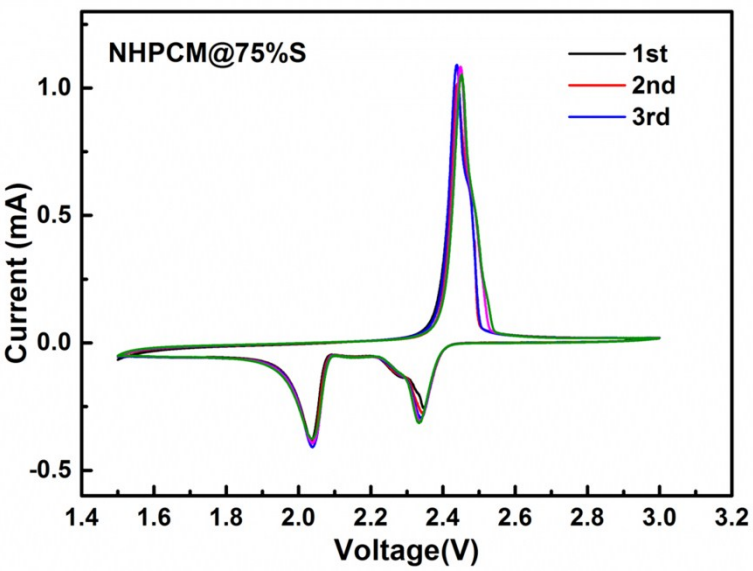

Fig. S4 Cyclic voltammograms of NHPCM@75%S composite at a sweep rate of 0.1 mV s^{-1} between 1.5 and 3.0 V.

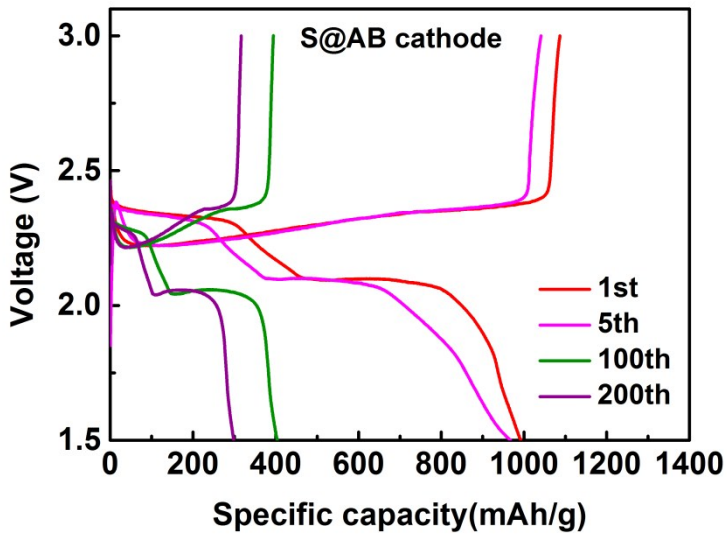

Fig. S5 Discharge/charge voltage profiles (0.1 C) at different cycles of S@AB-65%S cathode.

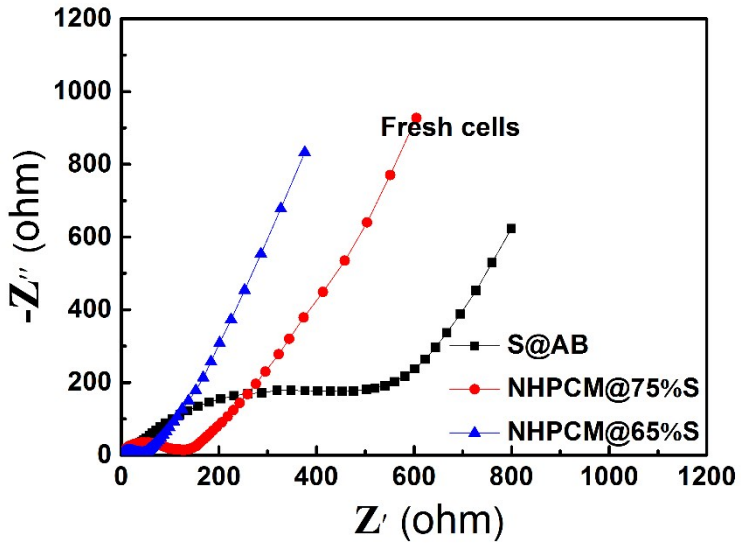

Fig. S6 The electrochemical impedance spectra of NHPCM@S and S@AB cathodes before cycle.

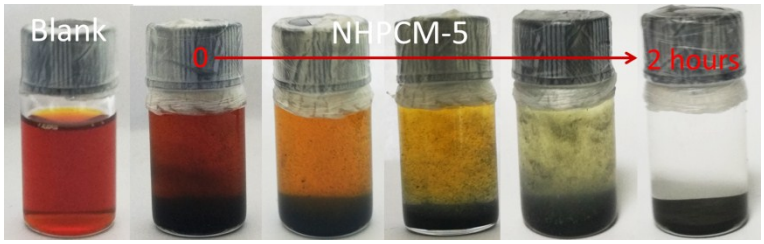

Fig. S7 Visual photos of a Li_2S_6/DOL-DME solution and NHPCM-5 soaked in Li_2S_6 solution within 2 hours.