

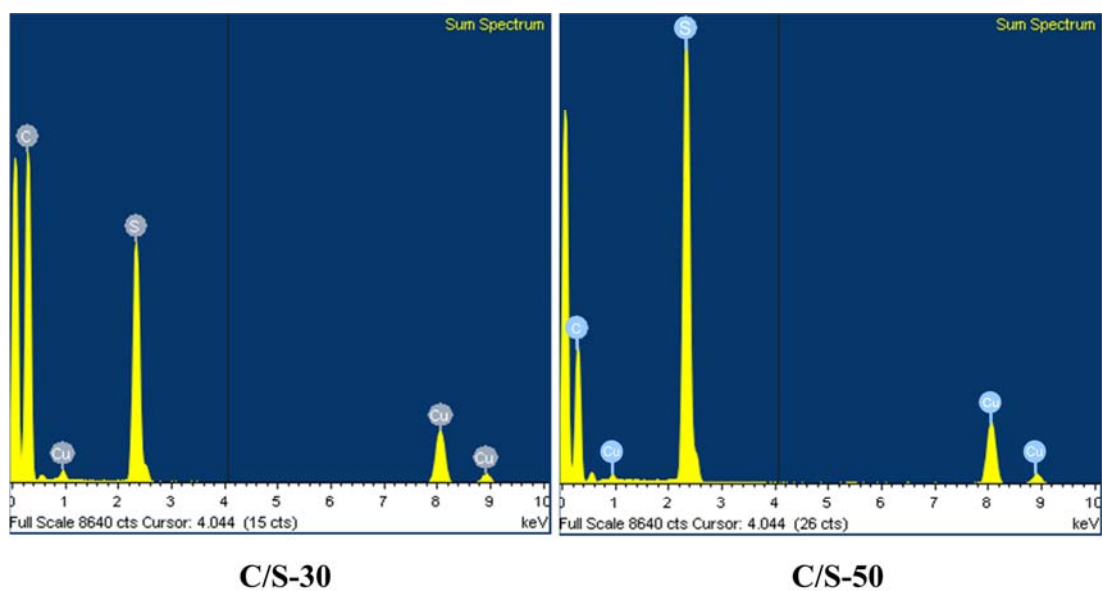
## Supporting Information

### High Performance C/S Composite Cathodes with Conventional Carbonate-Based Electrolytes in Li-S Battery

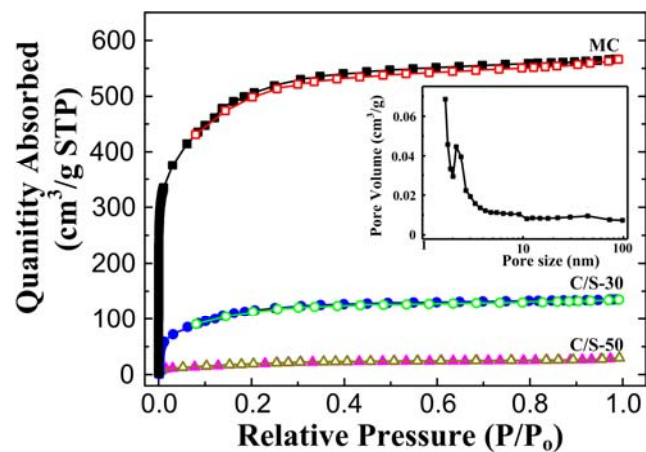
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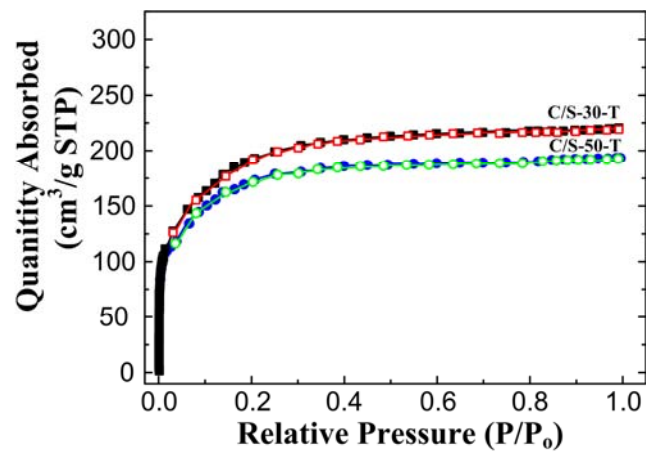
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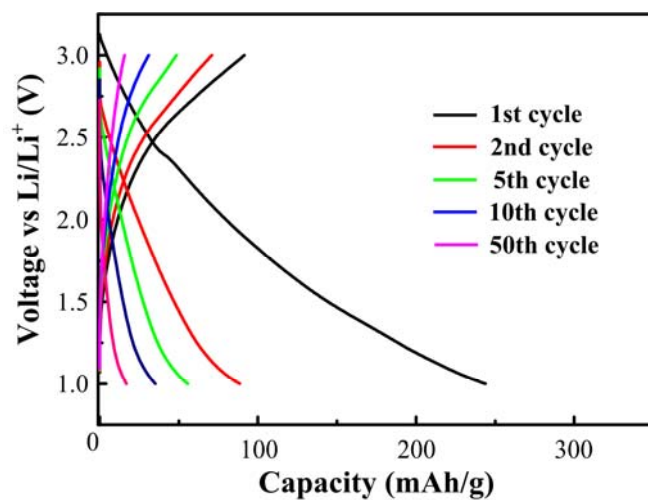
**Figure S1.** EDS spectrum with the elemental analysis of the C/S-30 and C/S-50 composite, respectively.



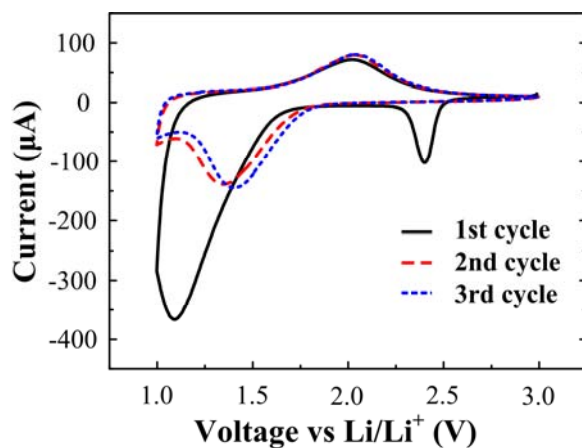
**Figure S2.** N<sub>2</sub> adsorption isotherms of MC, C/S-30 and C/S-50 and the pore size distribution of MC (insert).



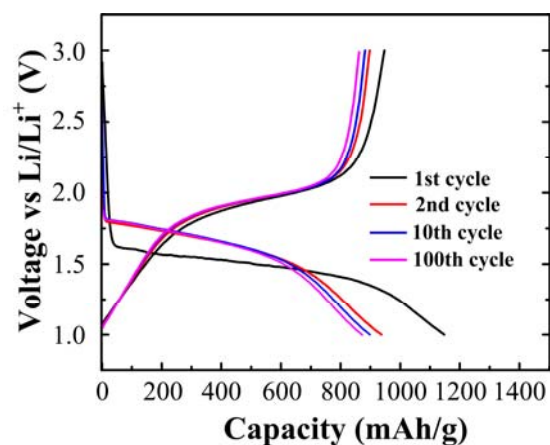
**Figure S3.** N<sub>2</sub> adsorption isotherms of C/S-30-T and C/S-50-T.



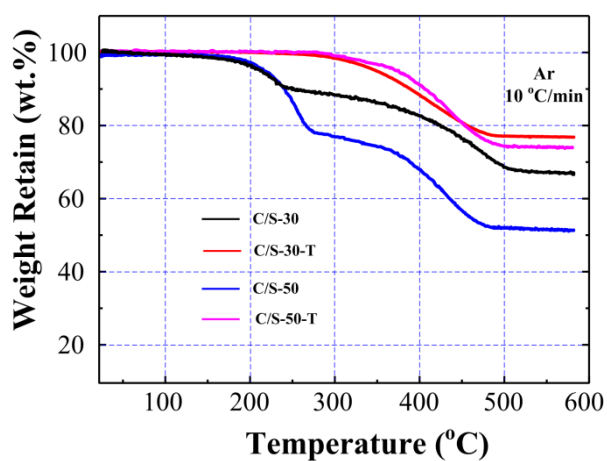
**Figure S4.** Discharge/charge voltage profiles of the micro/mesoporous carbon control electrode in the 1st, 2nd, 5th, 10th and 50th cycle at 100 mA/g using the electrolyte of 1.0 M LiPF<sub>6</sub> + EC/DEC (1 : 1 v/v).



**Figure S5.** Cyclic voltammograms of the C/S-50 electrode in the initial three cycles within the voltage window of 1.0–3.0 V at a scan rate of 0.1 mV/s.



**Figure S6.** Discharge/charge voltage profiles of the C/S-30-T composite electrode in the 1st, 2nd, 10<sup>th</sup> and 100<sup>th</sup> cycle at 100 mA/g using the electrolyte of 1.0 M LiPF<sub>6</sub> + EC/DEC (1 : 1 v/v).



**Figure S7.** TGA curves for the samples of C/S-30, C/S-50, C/S-30-T and C/S-50-T.