Electronic Supplementary Information

Micro- and Mesoporous Carbide-Derived Carbon Prepared by a Sacrificial Template Method in High Performance Lithium Sulfur Battery Cathodes

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Figure S1. Dynamic light scattering measurement of PMMA template particles dispersed in water (a) and SEM micrograph of dried PMMA template particles (b).



Figure S2. Raman spectrum of PMMA-CDC.



Figure S3. XRD pattern of the PMMA-templated CDCs.



Figure S4. Fitting comparison between the used QSDFT kernel and the experimental data (nitrogen physisorption at -196°C).



Figure S5. SEM micrograph of S-CDC at low magnification (a) and EDS mapping of the S distribution (b).



Figure S6. Nitrogen adsorption/desorption (filled symbols/empty symbols) isotherms (-196°C) of the S-CDC composite.



Figure S7. Effect of electrolyte molarity on the changes in the composition and morphology of the S-CDC cathodes after cycling test: SEM micrographs of the cathode surface after cycling in electrolytes with 1M LiTFSI salt concentration (a) and 5M LiTFSI salt concentration (b). Relative fractions of S as determined from EDS measurements on the cathode surface (c). S_0 and S stand for mass of sulfur before and after cycling respectively. The sulfur mass was normalized by carbon mass by assuming that carbon mass change is negligible after cycling for the comparison.



Figure S8. Effect of electrolyte molarity on the changes in the composition and morphology of the Li anodes after cycling test: SEM micrographs of the Li surface after cycling in electrolytes with 1M LiTFSI salt concentration (a) and 5M LiTFSI salt concentration (b). Elemental composition determined from EDS measurements on the Li surface (c).