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Supporting Information

Biomass-Derived Heteroatom-Doped Carbon Aerogels from a Salt Melt Sol–Gel Synthesis and their Performance in Li–S Batteries

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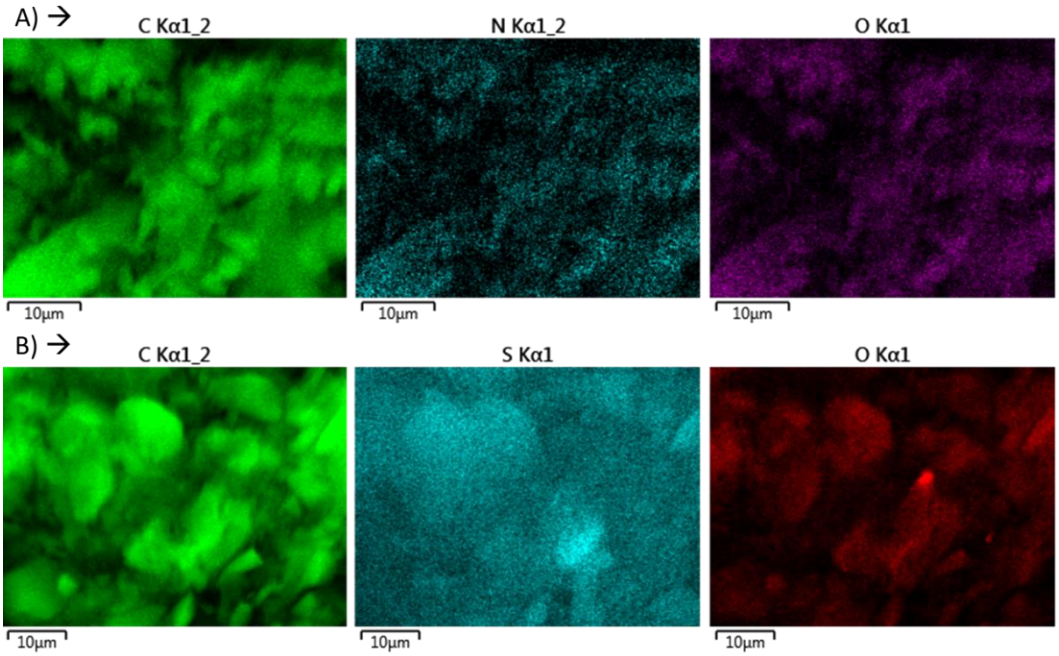


Figure S1: EDX elemental mapping images for characteristic elements of NC_15 (A) and SC_15 (B).

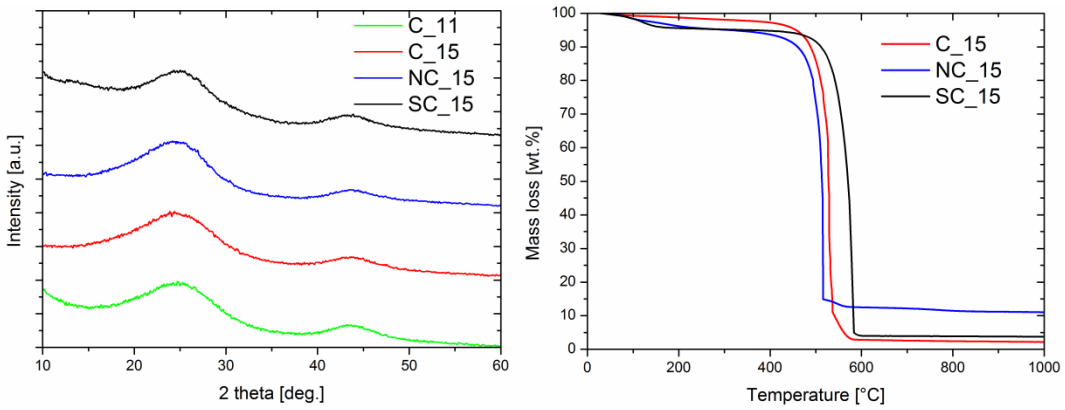


Figure S2: XRD (left) and TGA in nitrogen atmosphere (right) for the synthesized carbon samples.

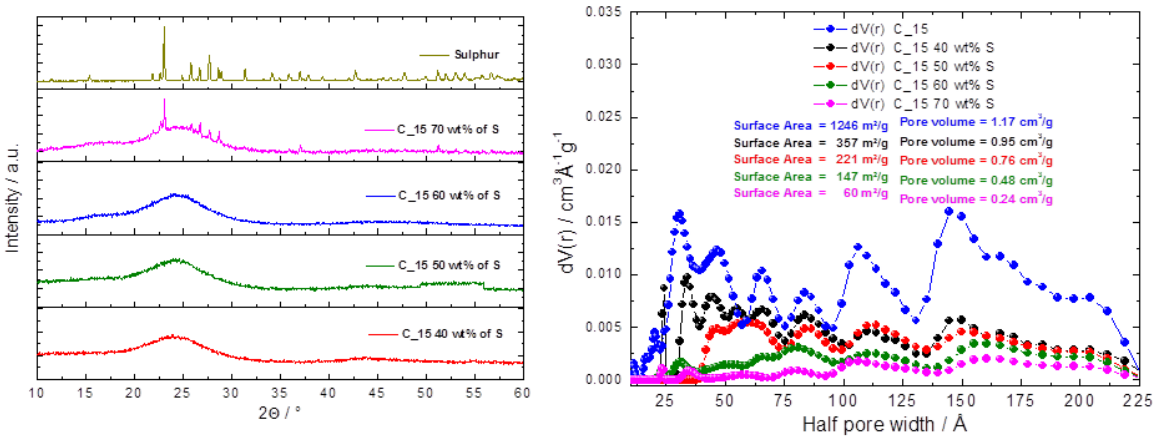


Figure S3: XRD pattern from crystalline sulfur and sulfur impregnated mesoporous C_15 (left) and the pore size distribution from non-impregnated to the sulfur impregnated C_15 from 40 to 70 wt.%.

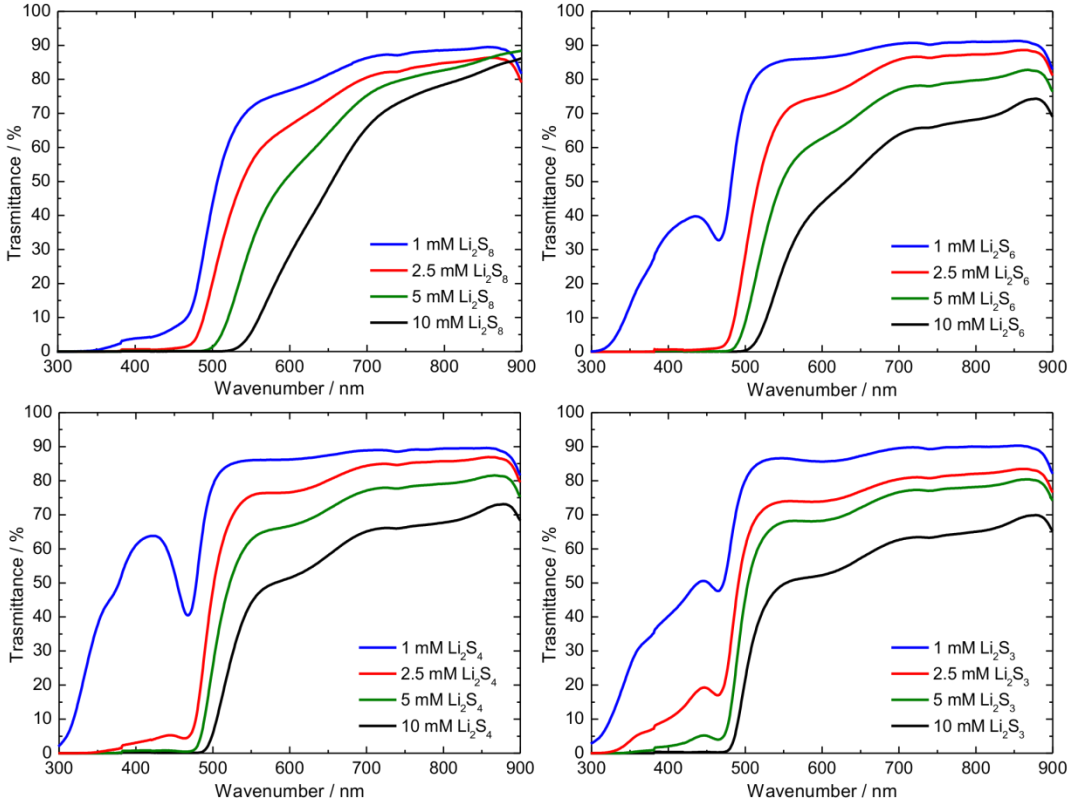


Figure S4: UV/Vis transmission spectra of different concentrated polysulfide fractions.

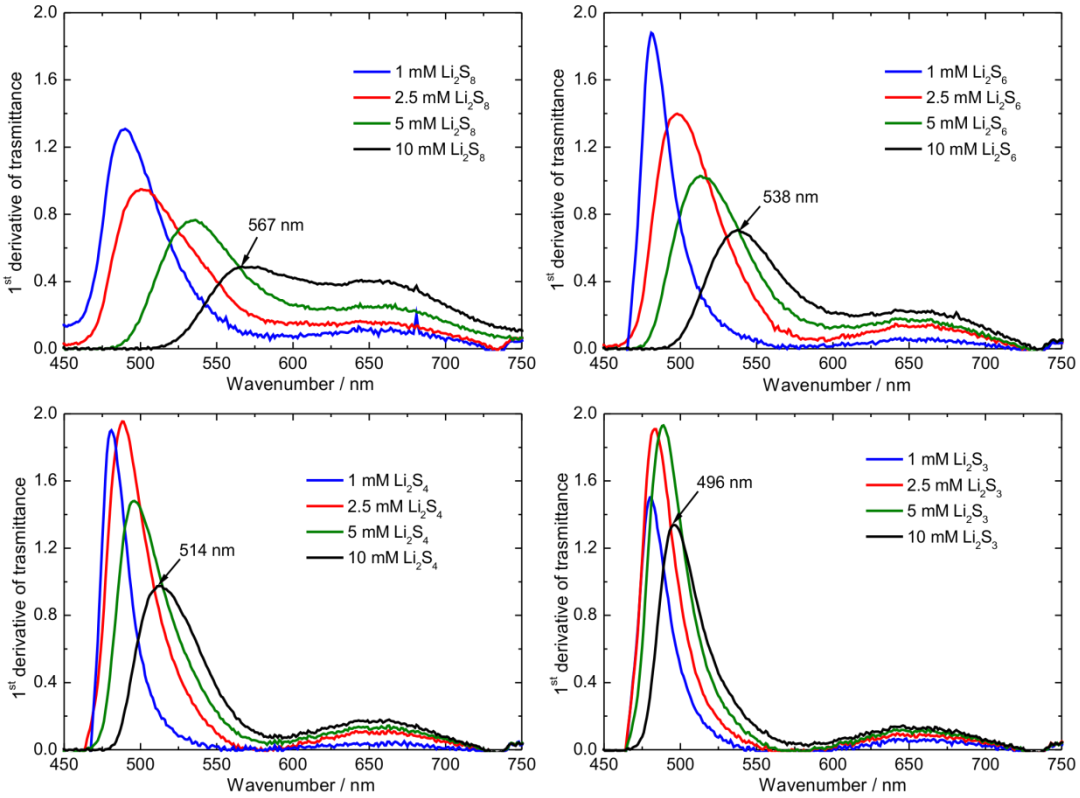


Figure S5: 1st derivative of transmittance for different concentrated polysulfide fractions and maximum wavenumber for 10 mM solutions.

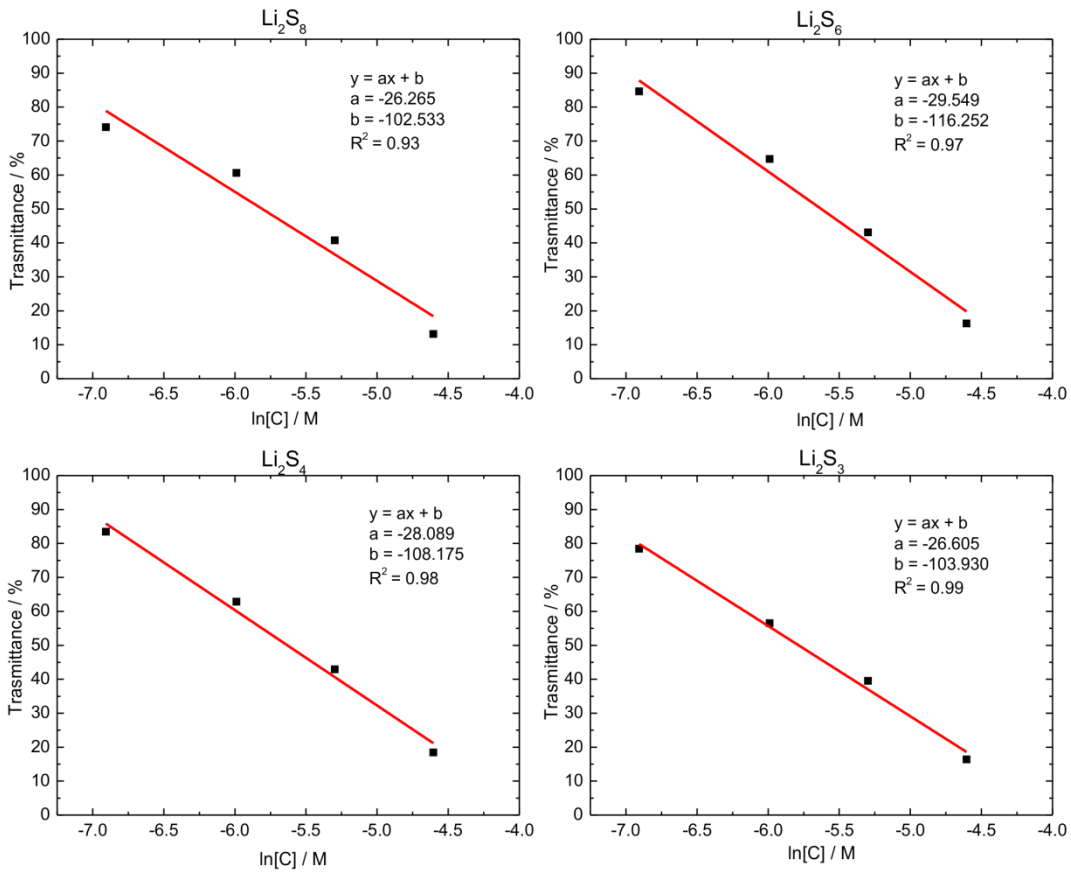


Figure S6: UV/Vis calibration curves for different concentrated polysulfide fractions.

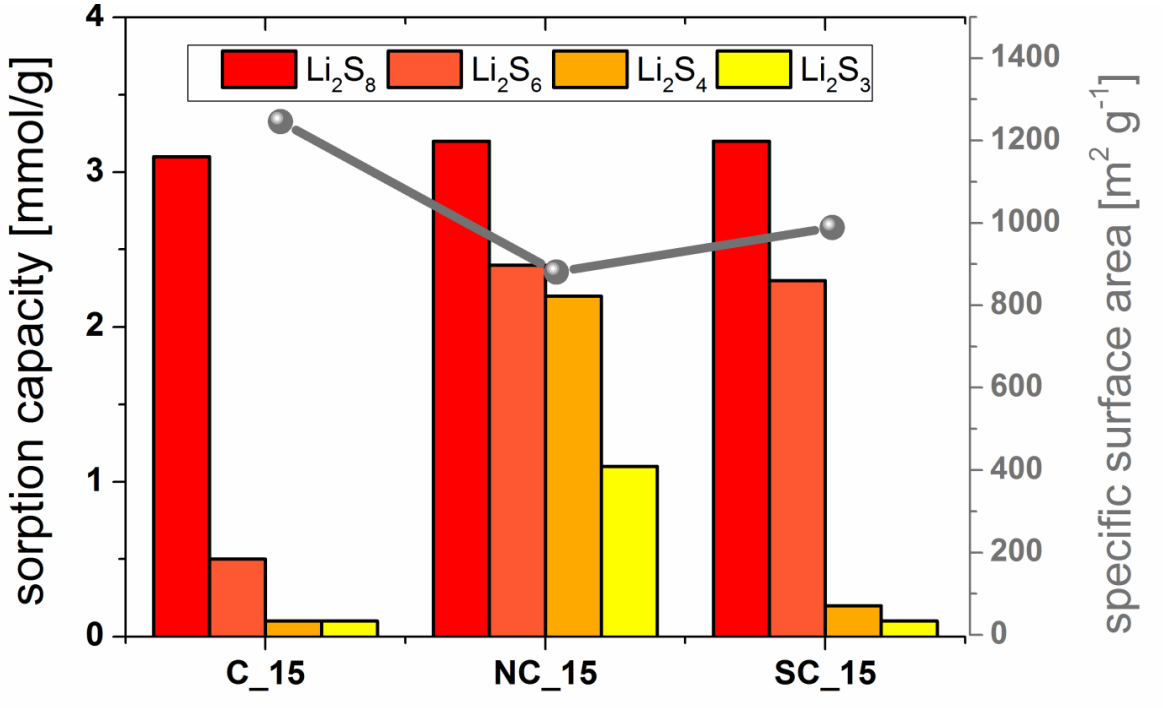


Figure S7: Sorption capacities (mmol/g) of different polysulfide fractions with nominal compositions of Li_2S_8 , Li_2S_6, Li_2S_4 and Li_2S_3 on C_15, NC_15 and SC_15. For comparison the values of the specific surface area are shown as well.

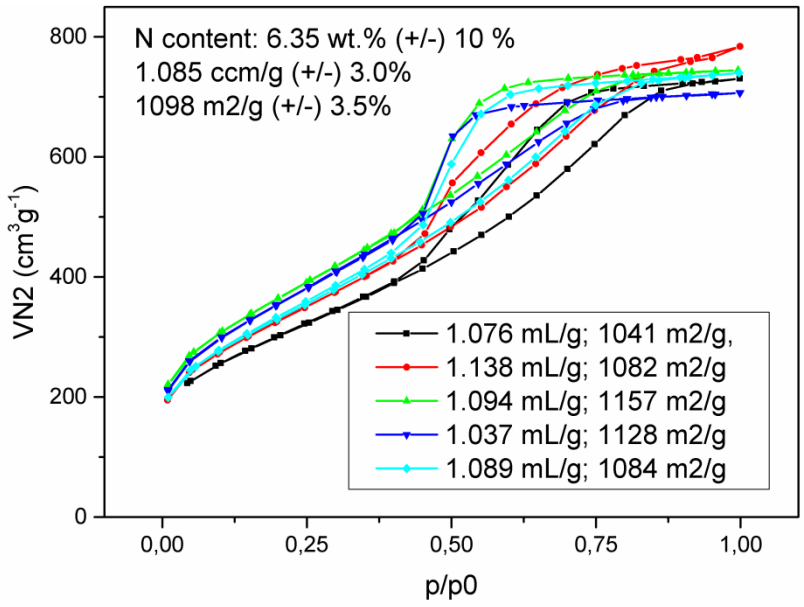
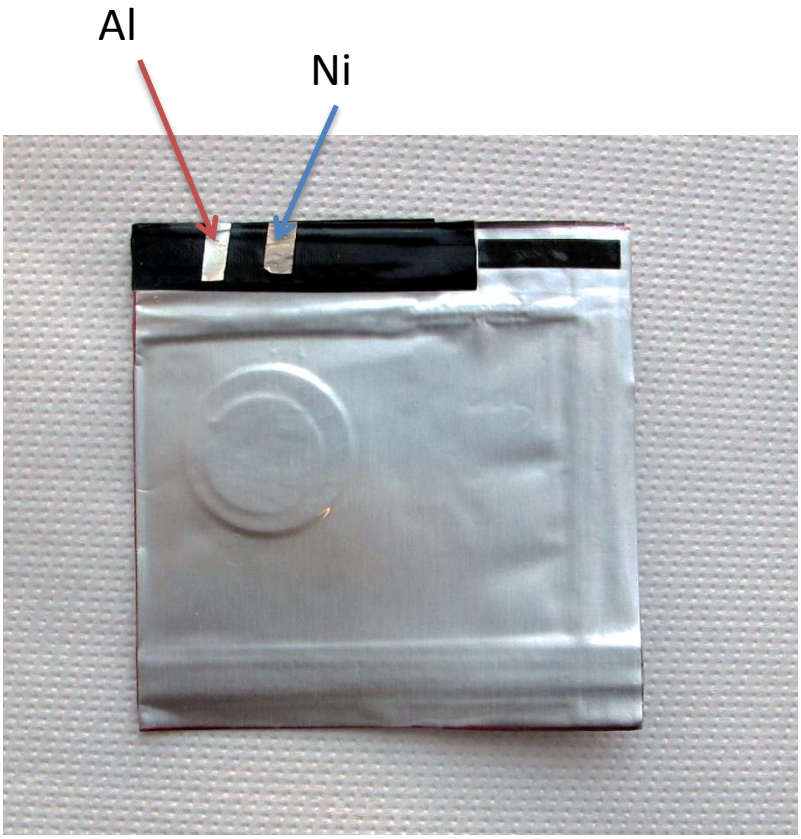


Figure S8: Nitrogen sorption isotherms and data of porosity and elemental composition of upscale synthesis of glucosamine-based carbon. The synthesis was performed batch wise (150 g glucosamine + 750 g $ZnCl_2$ + 1 L H_2O). Pre-carbonization to ~300°C in a beaker and subsequent heating to 950°C (oven) gave ca. 40 g per batch.

Coffee bag cell:


Al
Ni