Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A

Alternative materials for sodium ion sulfur battery

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SUPLLEMENTARY INFORMATION

Additional figures

Figure S1 reports the SEM image of the HCS (**a**) and of the HCS-S composite (**b**), X-ray diffraction patterns of the HCS and of the HCS-S composite (**c**) and the TGA weight change profile performed at 10 ^{o}/min heating rate under argon of the HCS-S composite (**d**). The figure evidences morphological integrity of the carbon spheres after sulfur impregnation (compare panels a and b), the amorphous nature both of HCS-S and of HCS-S composite (see panel c) and a sulfur content approaching 56 % in weight (see panel d).

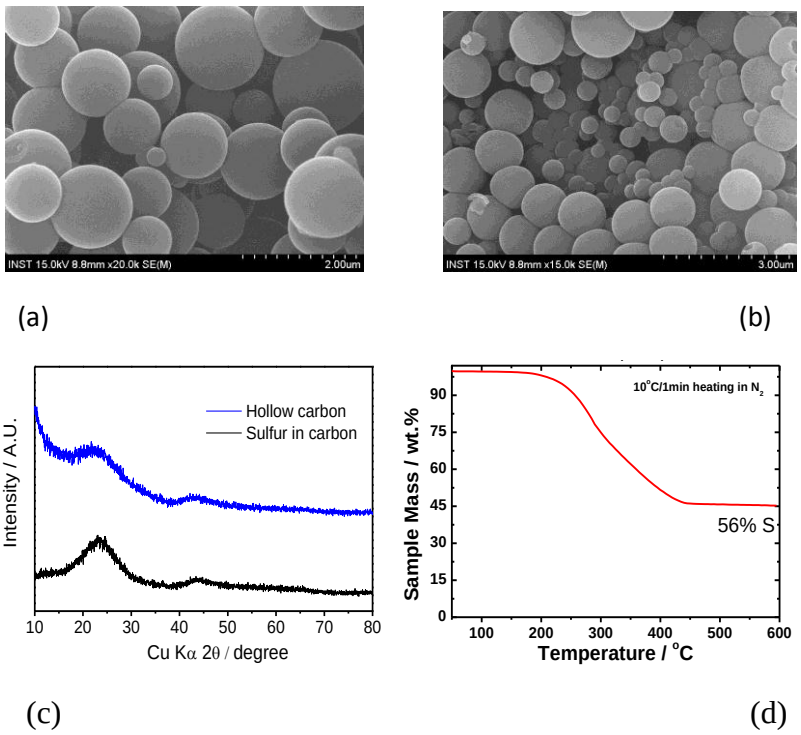

Figure S1

Figure S2 reports the BET test performed on the hollow carbon spheres.

The BET analysis shows the pore size distribution of the hollow carbon spheres precursor HCS. The data evidence high pore distribution at the lower pore size, i.e. lower than 10 nm, with a surface area of 1378 m^2 g^{-1} for the HCS.

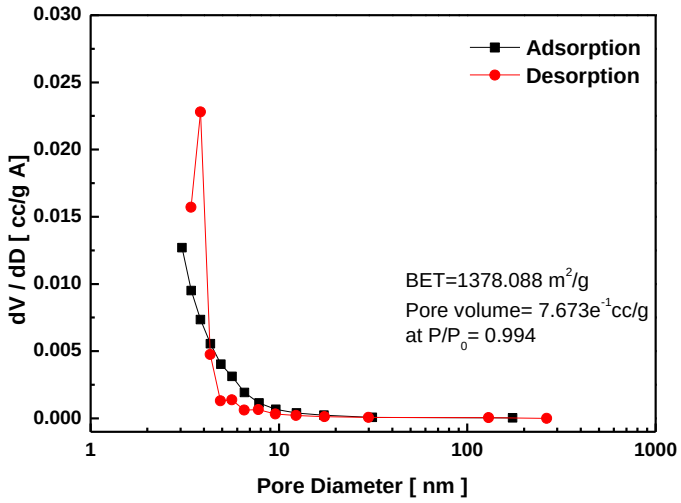

Figure S2

Figure S3 reports the electrochemical impedance spectra corresponding to the conductivity Arrhenius plots (reported in figure 3a in the paper) of sodium triflate- tetraethylene glycol dimethyl ether, $NaCF_3SO_3$-TEGDME electrolyte. The conductivity Arrhenius measurements were performed in a blocking electrode cell in a frequency range of 100 kHz-100 Hz

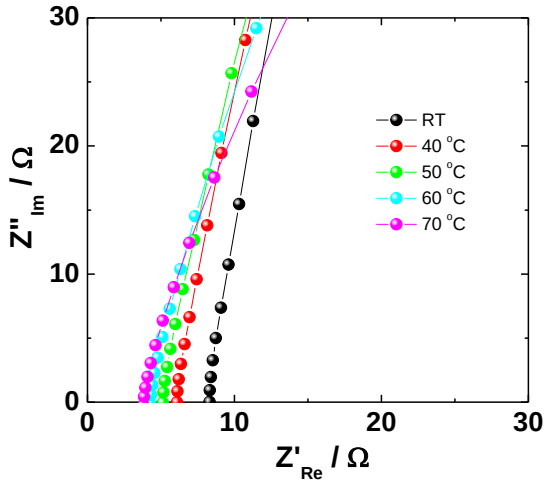

Figure S3