

Supplementary Information

Preparation and Processing of Low Thermal Conductive Porous Sulfur Foams

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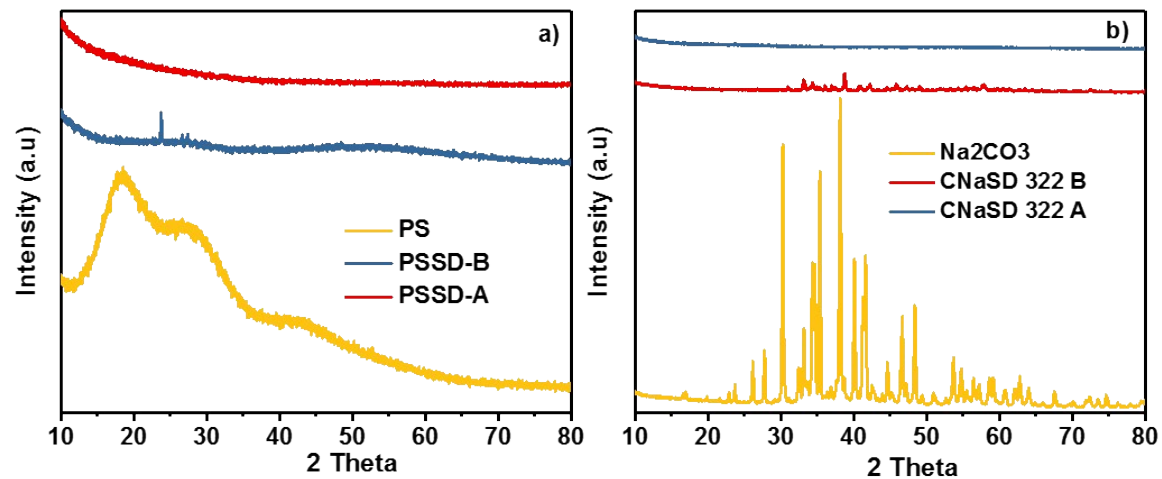


Figure S1 XRD of a) comparison of template PS, and PSSD before (PSSD-B) and after (PSSD-A) water treatment, b) template Na₂CO₃, and polysulfide containing Na₂CO₃ before (CNaSD-B) and after (CNaSD-A) water treatment respectively

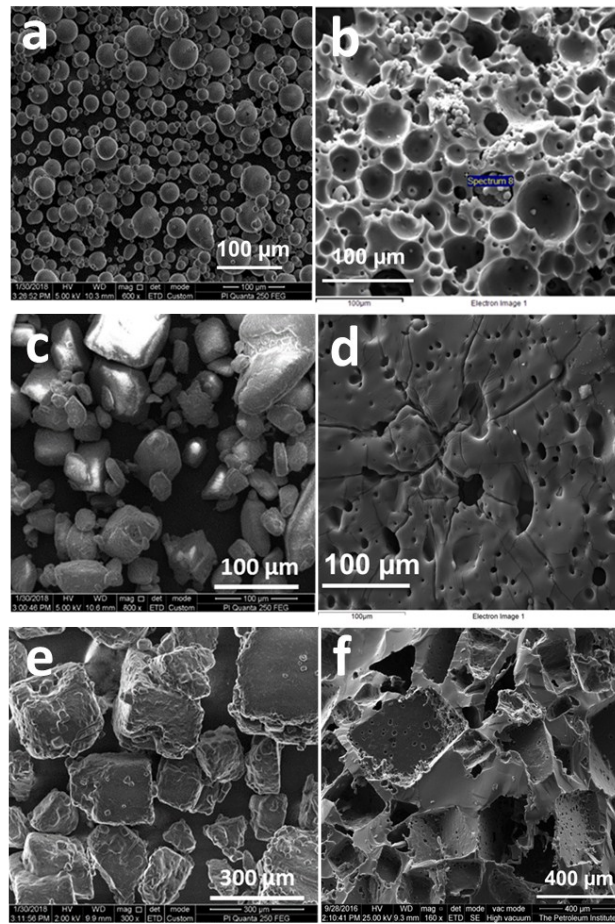
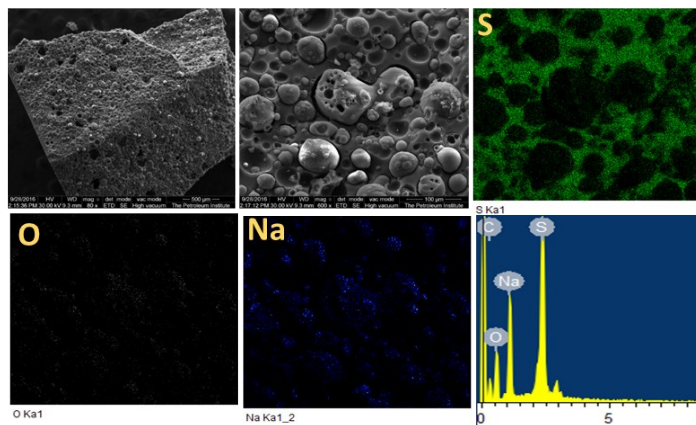
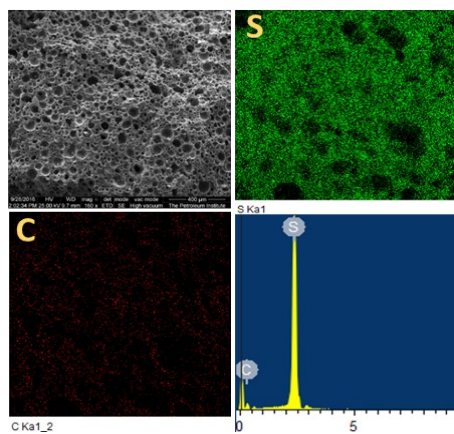


Figure S2 Comparison of templates; (a) PS, (c) Na_2CO_3 and (e) NaCl with the corresponding porous foam; (b) PSSD, (d) CNaSD and (f) NaSD respectively. Pores generated in the foam resembles the corresponding templates size and shape

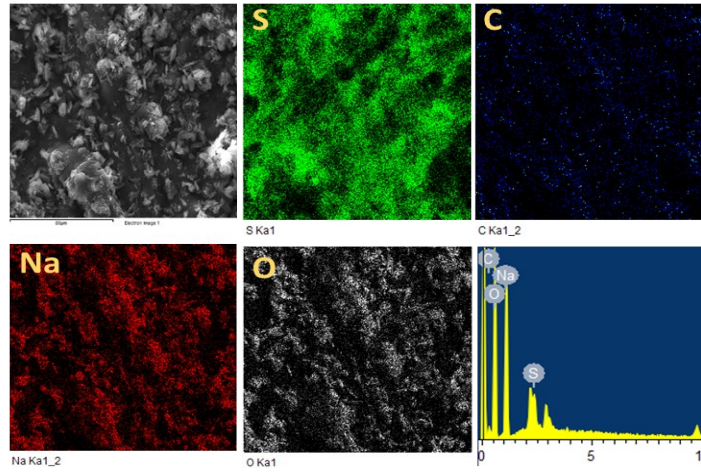
Figure S3 SEM images and elemental mapping of the polysulfides before and after water treatment



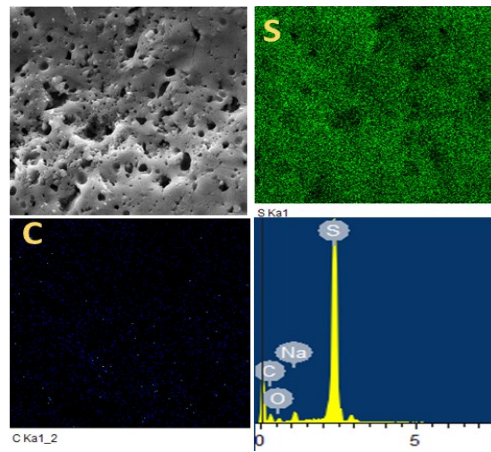
SEM and elemental mapping of PSSD before water treatment, the spherical shape on the surface shows the PS templates in polysulfide. EDX shows the presence of Na and Oxygen peaks



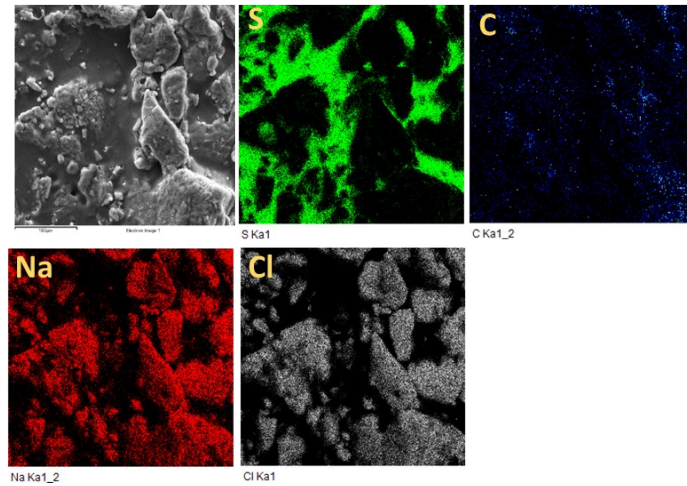
SEM and elemental mapping of PSSD after water treatment, porous structure resembles the template PS size and shapes. EDX show the disappearance of Na and oxygen peaks indicate complete removal of template after water treatment



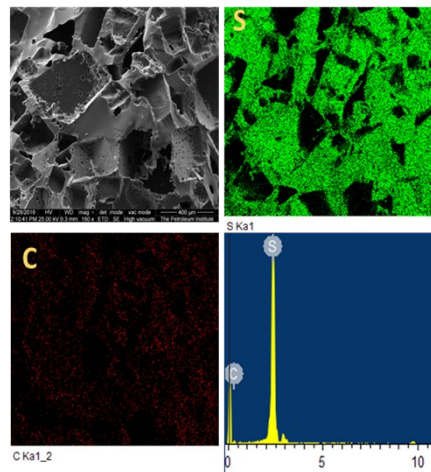
SEM and elemental mapping of CNaSD before water treatment, EDX shows Na, Oxygen are from Na_2CO_3 template



SEM and elemental mapping of CNaSD after water treatment, shows porous structure matching with the template. Significant decrease in the Na and oxygen peaks in EDX indicate removal of template after water treatment



SEM and elemental mapping of NaCl copolymer before water treatment shows the presence of Na, and Cl from the templet



SEM and elemental mapping of NaSD after water treatment, shows porous structure similar to templet size and shape. EDX shows significant decrease in the Na and Cl indicate removal of templet after water treatment