Electronic Supplementary Material (ESI) for Materials Advances.

Porous Recyclable Sponges with Controllable and Durable Shape Memory

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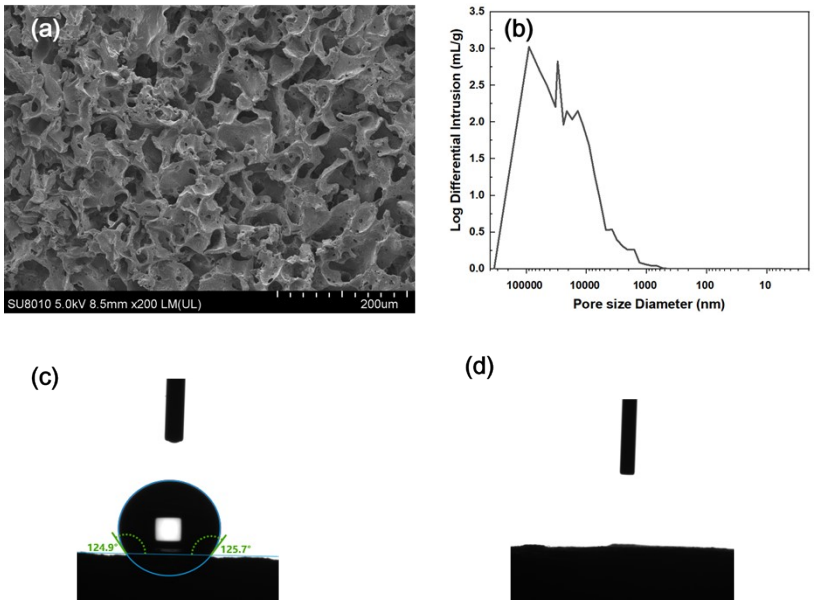

Figure S1 (a) SEM image, and (b) Pore size distribution obtained by mercury porosimetry of the SS-COOH after the compression process. The contact angle of (c) water and (d) organic solvents including dichloromethane, kerosene, toluene, ethanol, acetone, and cyclohexane on the SS-COOH.

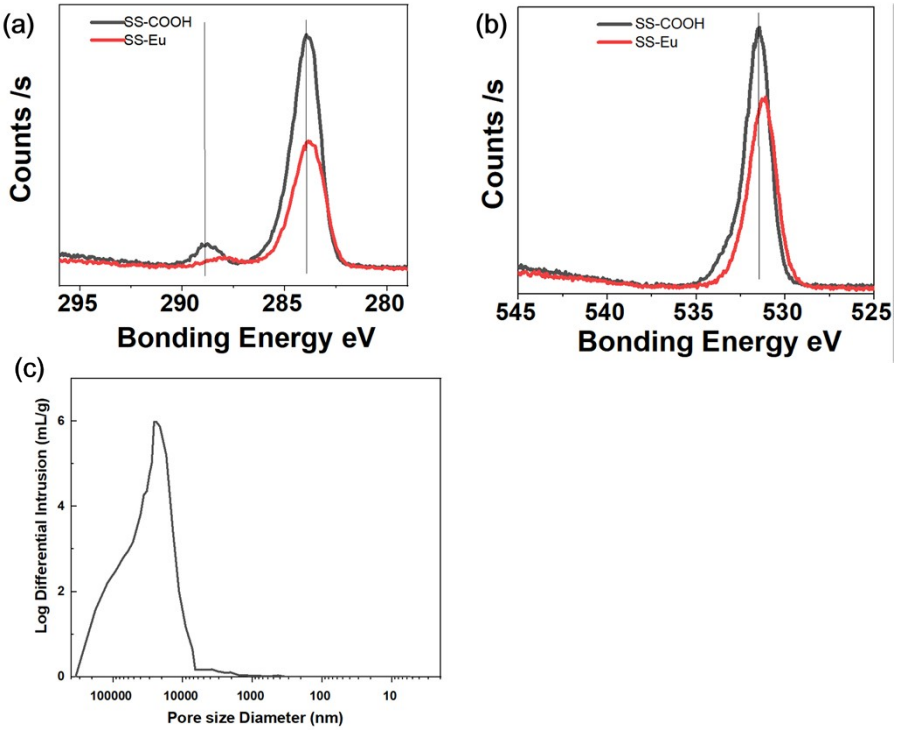

Figure S2 (a) XPS of the C 1s spectral region of SS-COOH and SS-Eu; (b) XPS of the O 1s spectral region of SS-COOH

and SS-Eu. (c) Pore size distribution obtained by mercury porosimetry of the SS-Eu.

Table S1 Elemental analysis of the sponge SS-COOH and SS-Eu.

SS-COOH	C %	H %	N %	S %
found	38.43	7.583	0	6.237
SS-Eu	C %	H %	N %	S %
found	35.54	7.037	0.59	5.815