

Supporting Information

Hierarchically Porous Sponge for Stabilized Emulsion Separation with High Filtration Flux and Separation Efficiency

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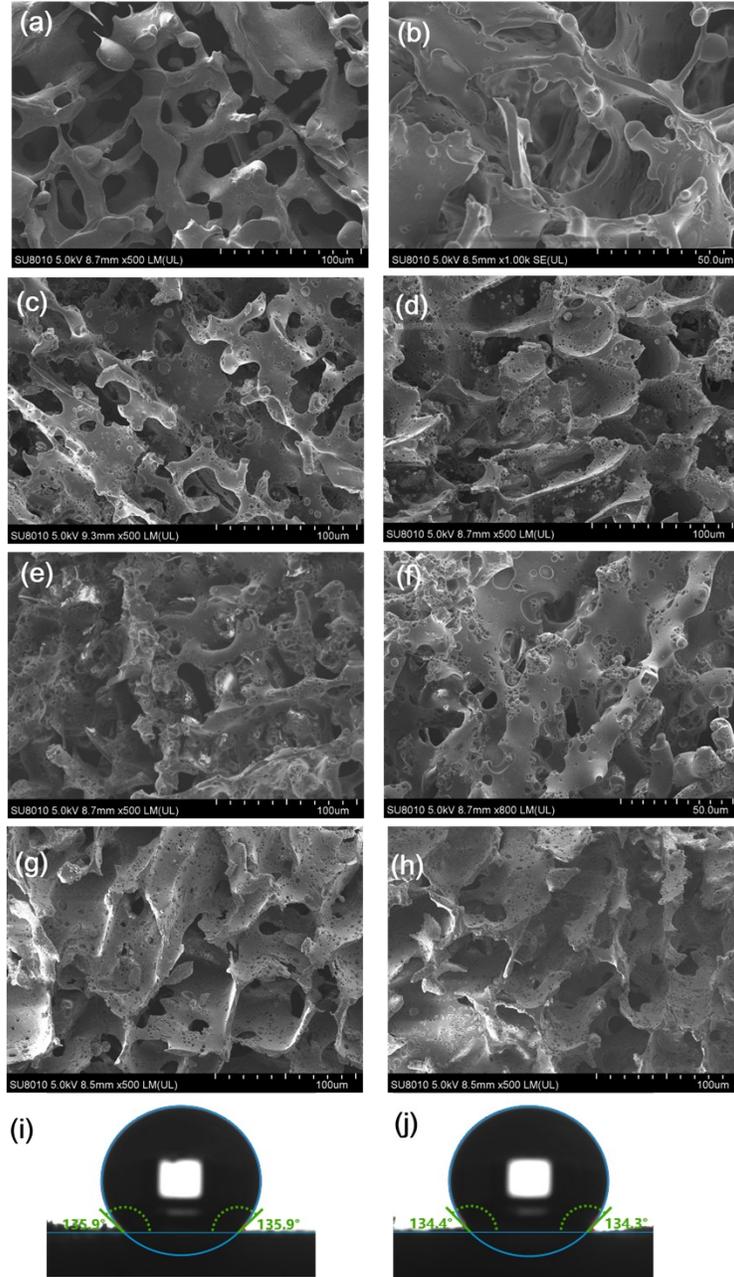


Figure S1. SEM of the (a) SS-H₁, (b) SS-H₂, (c) SS-H₃, (d) SS-H, (e) SS-H₄, (f) SS-H₅, (g) SS-H after multiple compressions, (h) SS-H after multiple washing processes with ethanol. The images of water contact angle of the SS-H after multiple (i) compressions, and (j) washing processes with ethanol.

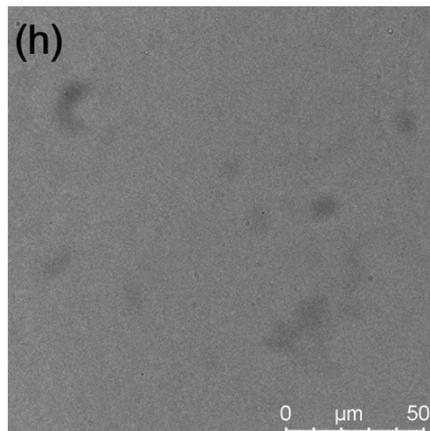
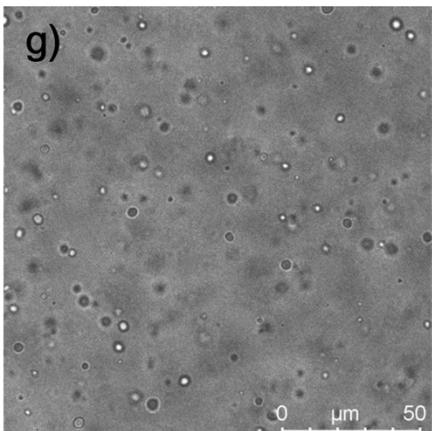
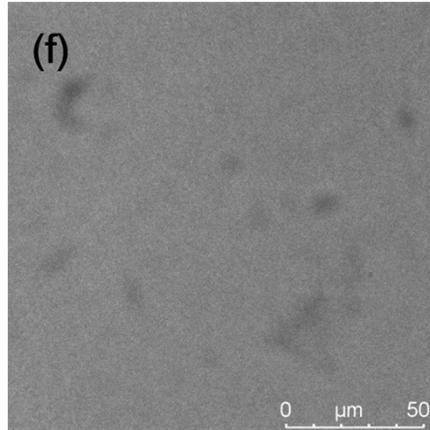
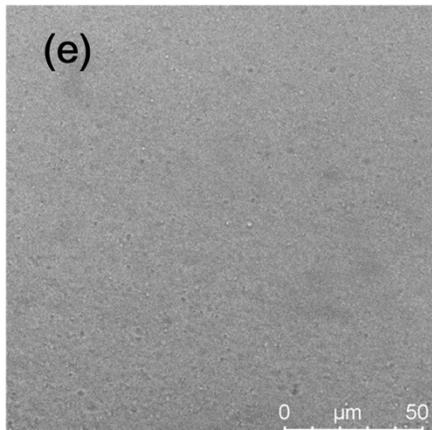
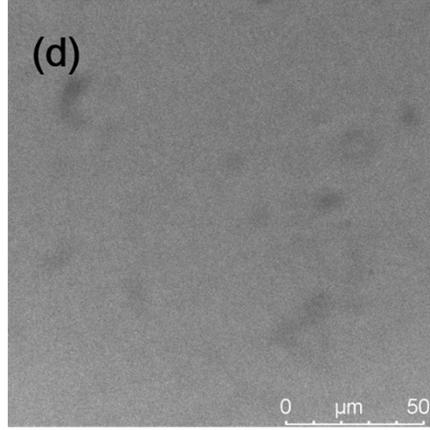
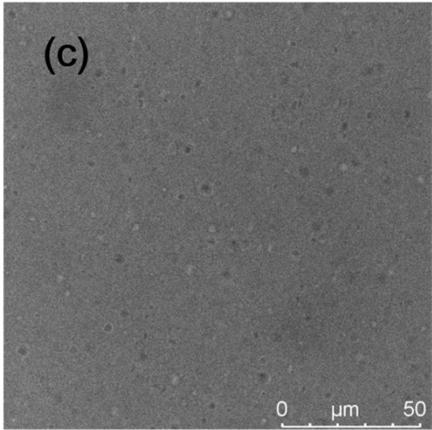
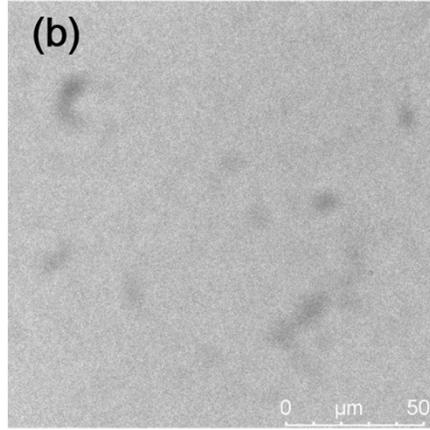
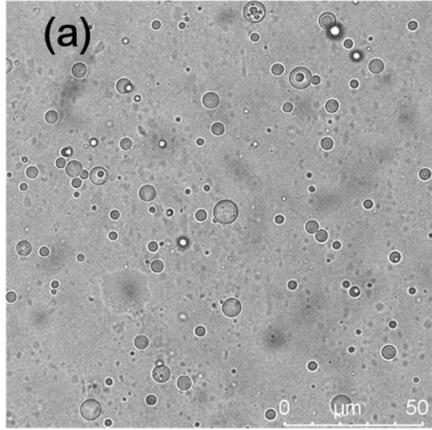


Figure S2. The optical microscope images of the chloroform-in-water emulsion (a) before and (b) after separation. The optical microscope images of the petroleum ether-in-water emulsion (c) before and (d) after separation. The optical microscope images of the kerosene-in-water emulsion (e) before and (f) after separation. The optical microscope images of the cyclohexane-in-water emulsion (g) before and (h) after separation.

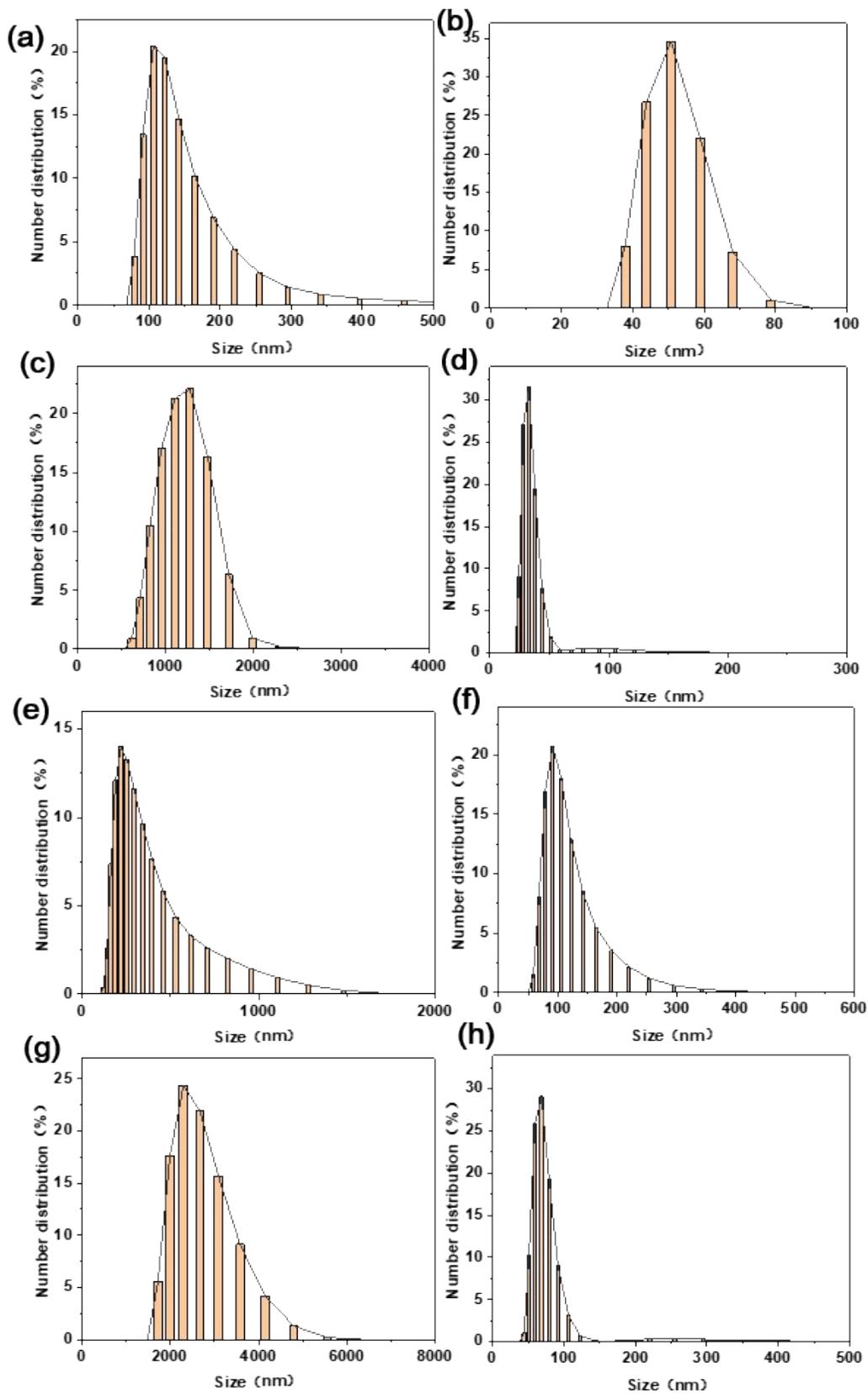


Figure S3. The emulsions size distribution obtained by dynamic light scattering of the chloroform-in-water emulsion (a) before and (b) after separation. The emulsions size distribution of the petroleum ether-in-water emulsion (c) before and (d) after separation. The emulsions size distribution of the kerosene-in-water emulsion (e) before and (f) after separation. The emulsions size distribution of the cyclohexane-in-water emulsion (g) before and (h) after separation.

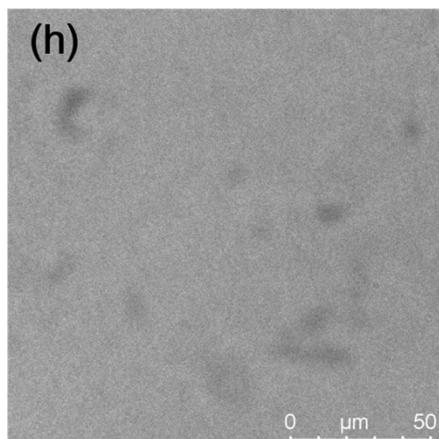
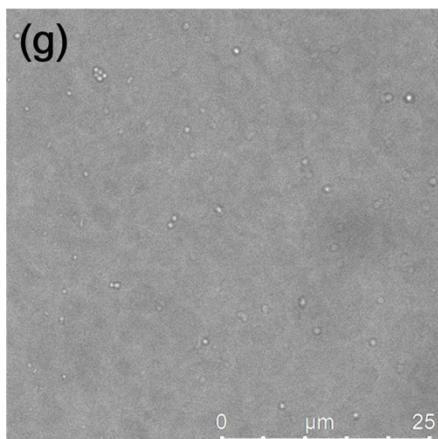
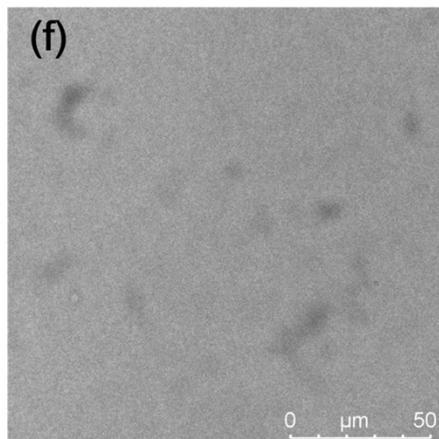
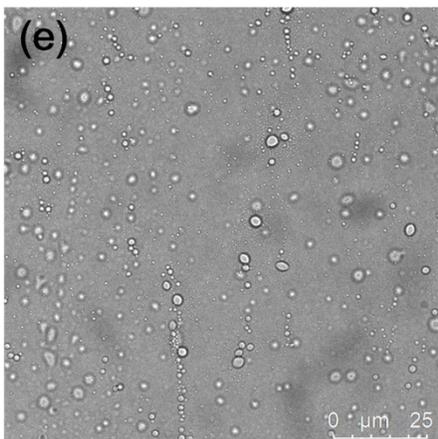
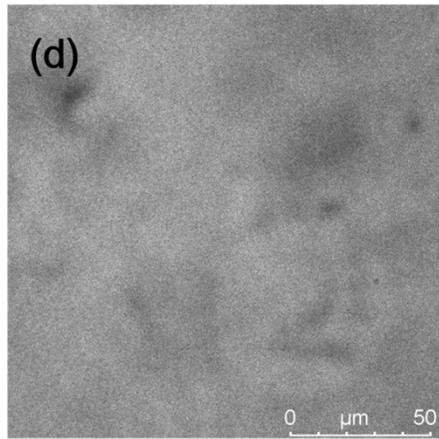
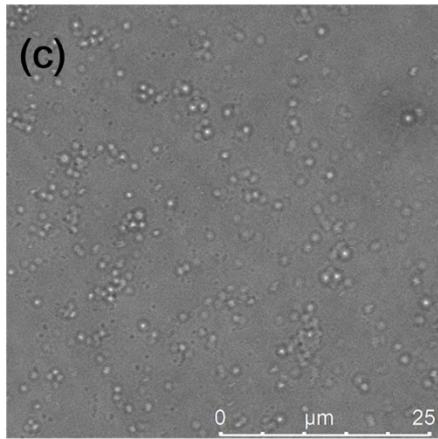
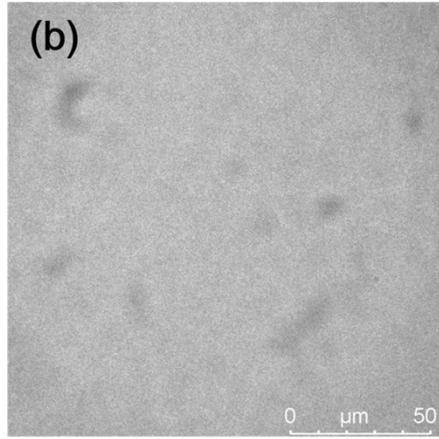
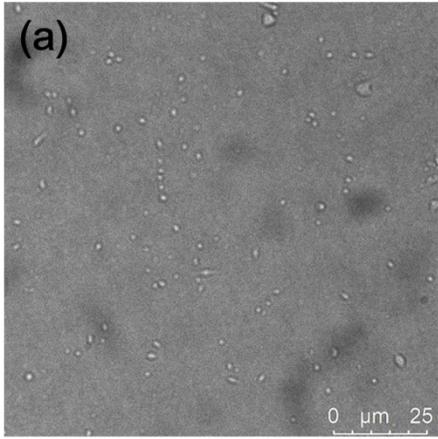


Figure S4. The optical microscope images of the water-in-chloroform emulsion (a) before and (b) after separation. The optical microscope images of the water-in-petroleum ether emulsion (c) before and (d) after separation. The optical microscope images of the water-in-kerosene emulsion (e) before and (f) after separation. The optical microscope images of the water-in-cyclohexane emulsion (g) before and (h) after separation.

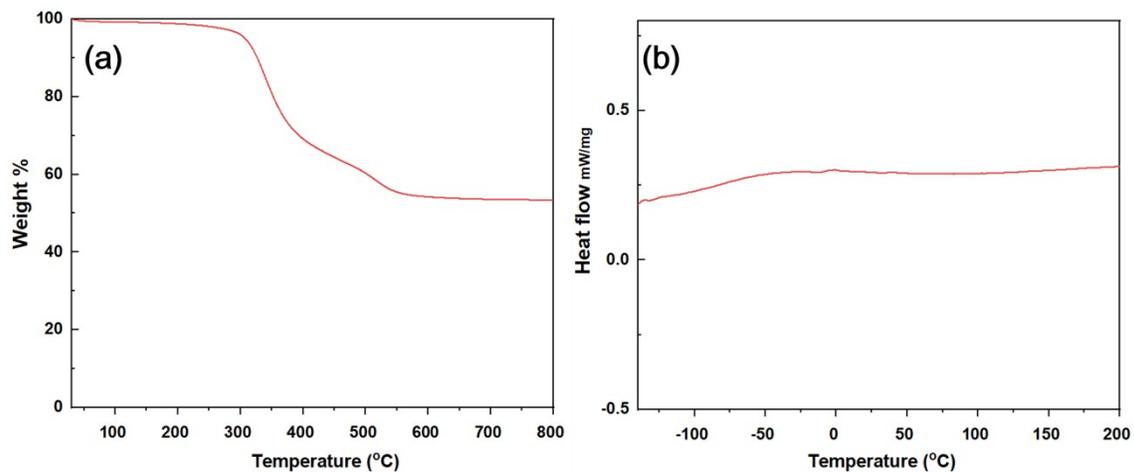


Figure S5. The TGA curve of the SS-H in air at $10\text{ }^{\circ}\text{C min}^{-1}$. The DSC curve of the SS-H in N_2 at $10\text{ }^{\circ}\text{C min}^{-1}$.