

Supporting information

Durable Superhydrophobic/Superoleophilic PDMS Sponges and Their Applications in Selective Oil Absorption and Plugging Oil Leakage

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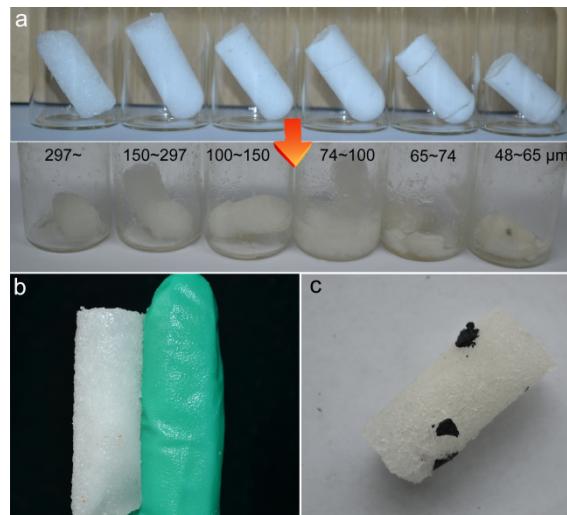


Fig. S1. Images of PDMS sponges (a) with embedded urea microparticles of different size after curing and washing ($m_{\text{PDMS}}/m_{\text{dimethicone}} = 4:6$), (b) using *n*-hexane as the solvent ($m_{\text{PDMS}}/m_{\text{dimethicone}} = 6:4$, the size of NaCl microparticles is $150 \sim 297 \mu\text{m}$), and (c) using *p*-xylene as the solvent ($m_{\text{PDMS}}/m_{\text{dimethicone}} = 6:4$, the size of NaCl microparticles is $150 \sim 297 \mu\text{m}$).



Fig. S2. Image of the PDMS 1# sponge.

Table S1. EDX analysis of the PDMS 3# sponge.

Elements	Atomic (%)
C	60.61
O	10.07
Si	29.31

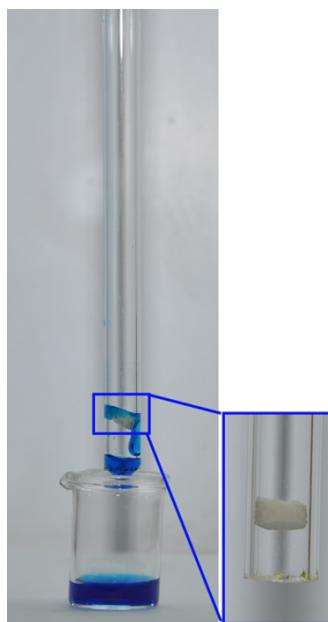


Fig. S3. Penetration of water through the space between the PDMS sponge and the glass tube.

5 Movie S1. The combustion processes of the superhydrophobic PDMS 9# sponge and polyurethane sponge. This video highlights flame retardancy of the PDMS sponge.

Movie S2. Selective oil absorption by the PDMS 4# sponge. This video highlights the high efficiency of the PDMS sponge in oil absorption under different conditions. Oils were colored with Oil Red O.

Movie S3. Swelling process of the PDMS 5# sponge. The first part was taken at a speed of 125 fps and 10 the second part was taken at a speed of 200 fps. This video highlights the unique swellable property of the PDMS sponge in contacting with oil.

Movie S4. Plugging oil leakage using the PDMS sponge. This video highlights the high efficiency of the PDMS sponge in plugging oil leakage. Oil was colored with Oil Red O.