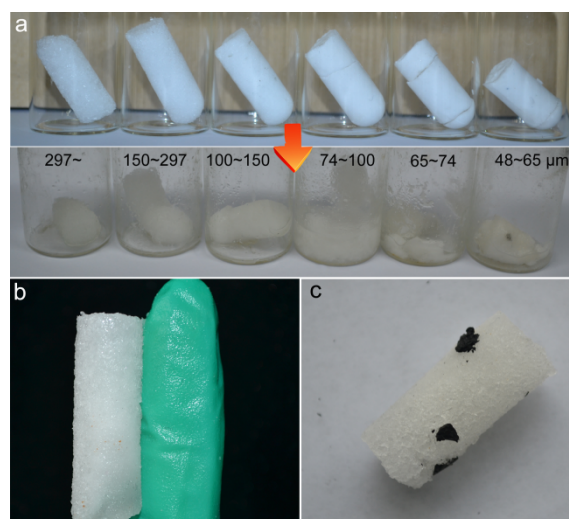


## Supporting information

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

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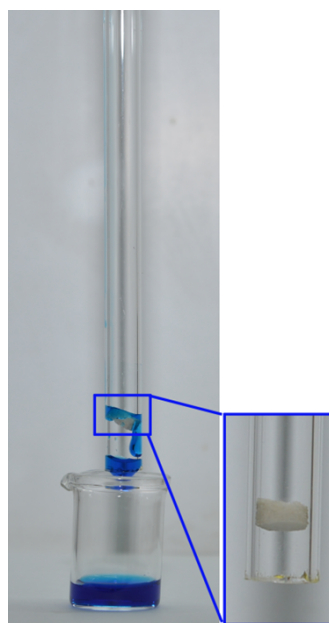
**Fig. S1.** Images of PDMS sponges (a) with embedded urea microparticles of different size after curing and washing ( $m_{\text{PDMS}}/m_{\text{dimethicone}} = 4:6$ ), (b) using *n*-hexane as the solvent ( $m_{\text{PDMS}}/m_{\text{dimethicone}} = 6:4$ , the size of NaCl microparticles is 150 ~ 297  $\mu\text{m}$ ), and (c) using *p*-xylene as the solvent ( $m_{\text{PDMS}}/m_{\text{dimethicone}} = 10:6:4$ , the size of NaCl microparticles is 150 ~ 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.