Electronic Supplementary Information

Underoil superhydrophilic desert sand layer for efficient gravity-directed water-in-oil emulsions separation

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Supplementary figure and movie captions:

Fig. S1 FE-SEM images of the sand layer for observation of pore size between sand particles.

Fig. S2 Microscope images, digital photos and droplet size distribution of the separation results for (a-c) Span 80-stabilized water-in-petroleum ether (W/P), (d-f) water-in-kerosene (W/K) and (g-i) water-in-hexane (W/H) emulsion.

Movie S1 The wastewater purification process of oil/dye polluted water mixtures based on the 1 cm sand layer.

Movie S2 The process of an underoil water droplet infiltrates into the sand layer.

Movie S3 The separation process of surfactant-stabilized water-in-petroleum ether emulsion based on the sand layer.

Movie S4 The separation process of surfactant-stabilized water-in-kerosene emulsion based on the sand layer.

Movie S5 The separation process of surfactant-stabilized water-in-hexane emulsion based on the sand layer.

Movie S6 The bulk sand particle adsorbs water dyed by methyl blue in hexane.
Fig. S1 FE-SEM images of the sand layer for observation of pore size between sand particles.

Fig. S2 Microscope images, digital photos and droplet size distribution of the separation results for (a-c) Span 80 stabilized water-in-petroleum ether (W/P), (d-f) water-in-kerosene (W/K) and (g-i) water-in-hexane (W/H) emulsion.