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## **A versatile and efficient approach to separate both surfactant-stabilized water-in-oil and oil-in-water emulsions**

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Abstract: Oil/water separation is an important field aiming to resolve industrial oily wastewater and oil-spill pollution, as well as environmental protection. However, the separation of oil-water mixtures, especially surfactant-stabilized oil-water emulsions, is a worldwide challenge. To this end, we developed a versatile and efficient approach to separate various highly stable emulsions including both surfactant-stabilized W/O emulsions and O/W emulsions with high separation efficiency using nanoporous divinylbenzene (DVB)/SiO<sub>2</sub> hybrid material. The highly effective separation property of the hybrid material is attributed to its superhydrophobicity, high specific surface area and nanopore size distribution. Therefore, the versatile emulsion separation of hybrid material shows obvious advantage over most superwetting surfaces that only have effect on free oil-water mixtures or one form emulsion (W/O emulsions or O/W emulsions). Besides, the as-prepared hybrid material can rapidly swell various organic solvents from water selectively with high absorption capacity because of the present

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