Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

Superhydrophilic Cement-Coated Mesh: An Acid, Alkali, and Organic Reagent-Free Material for Oil/Water Separation

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Video S1. The underwater touch and leaving processes of dichloromethane on the superhydrophilic cement-coated meshes. The dichloromethane left the substrate easily, indicating the ultralow stickiness of the meshes to oils.

Video S2. The underwater rolling off processes of the oils on the superhydrophilic cement-coated meshes.

Video S3. The separation processes of hexane/water mixture driven by gravity. Hexane/water mixture was firstly poured onto the superhydrophilic cement-coated meshes mounted between two acrylic tubes and then separated completely.

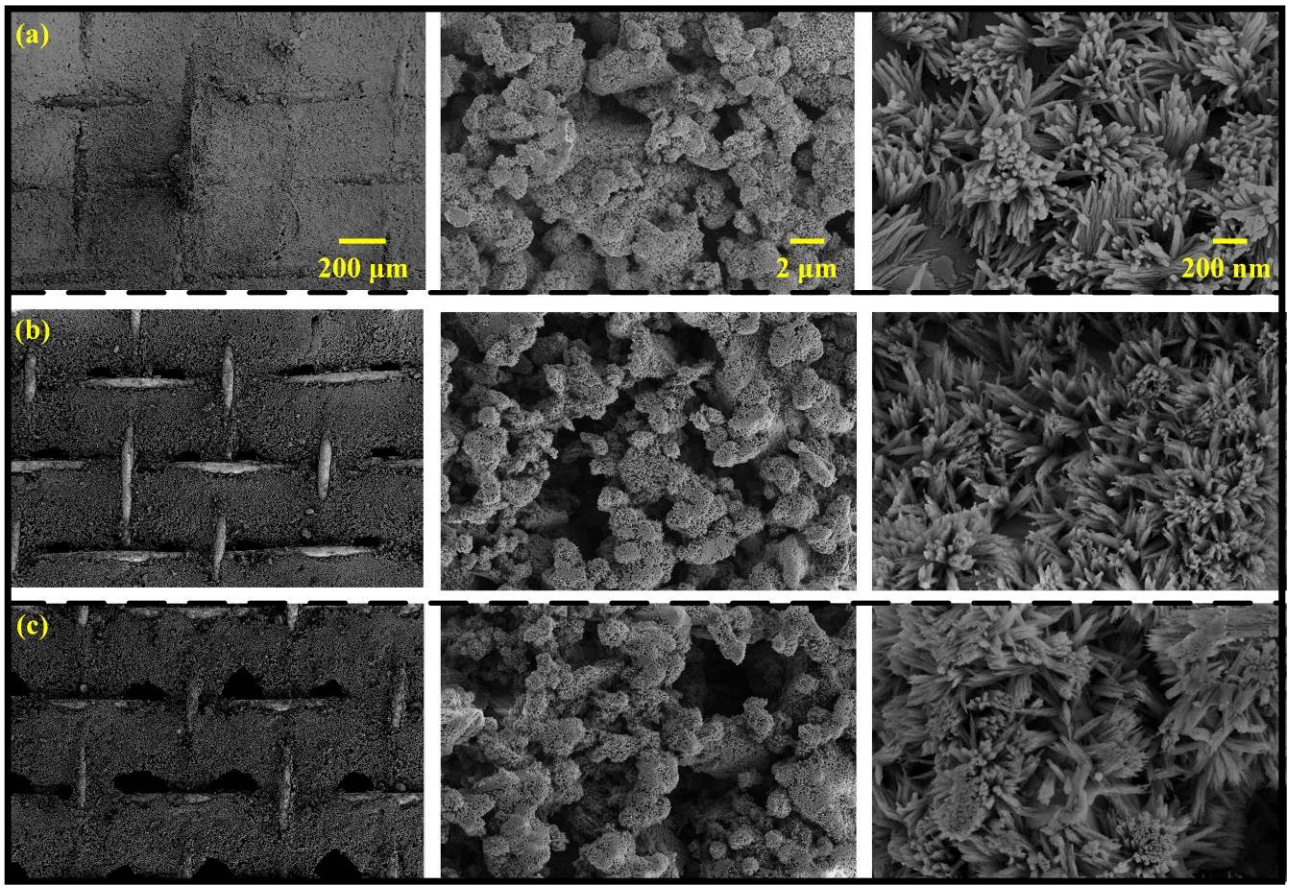

Figure S1. Surface micromorphologies of the superhydrophilic cement-coated meshes with different cement masses per unit area: (a) 0.32 kg/m^2, (b) 0.21 kg/m^2, (c) 0.13 kg/m^2.

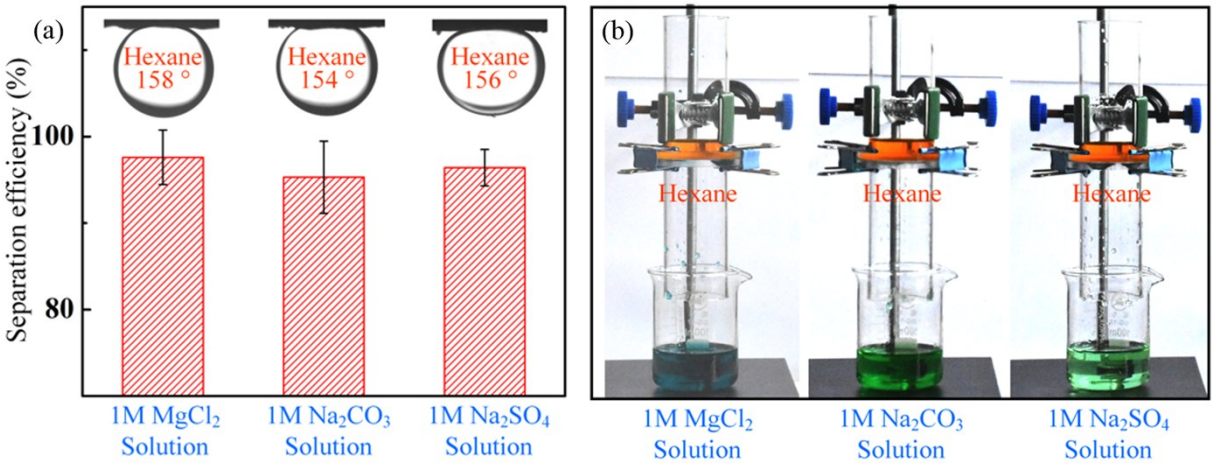

Figure S2. Separation of oil/water mixtures containing 1 M aqueous $MgCl_2$ solution, 1 M aqueous Na_2CO_3 solution, or 1 M aqueous Na_2SO_4 solution: (a) CAs of hexane on the superhydrophilic cement-coated meshes under these solutions and the separation efficiency of these mixtures, and (b) the separation processes of these mixtures.

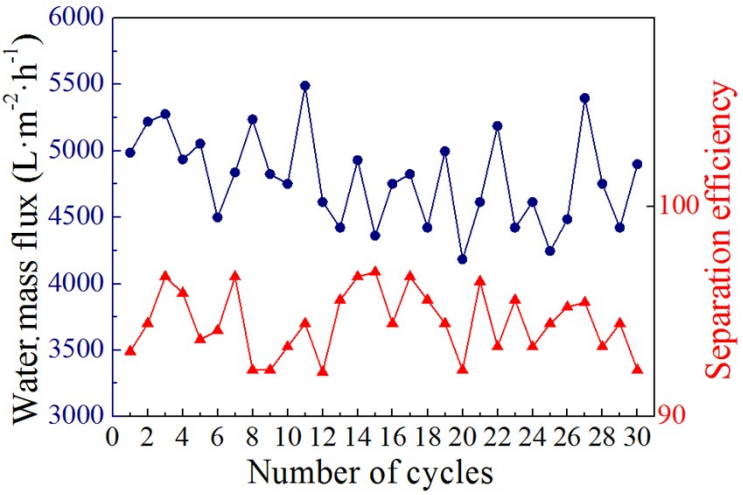

Figure S3. The variation of the water mass flux and separation efficiency of the cement-coated meshes with the hexane/1M aqueous NaOH solution.