

Supplementary Materials

Construction of a carbon nanospheres aerogel with magnetic response for efficient oil/water separation

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2. Experimental

2.2. Preparation of MCNS

C₁₀H₈O₂ (0.1 g), PF127 (0.5 g) and C₁₀H₁₀Fe (0.3 g) were dissolved in 20 mL of ethanol. Then 1 mL of H₂O₂ was added in the mixed solution. The solution was transferred into a teflon-lined stainless autoclave, and reacted at 220°C for 24 h. After cooled to room temperature, the precipitate was washed and dried. The dried product was annealed at 500°C for 1 h. This sample was denoted as MCNS.

2.4. Characterization

The morphology and microstructure of sample were measured by JSM-6700F field emission scanning electron microscope (FESEM, Japan). The magnetization behavior of sample was analyzed by a vibrating sample magnetometer at 298 K (VSM, USA). The structure of sample was studied by a X-ray diffractometer (XRD). FTIR spectrum was measured with KBr pellet by Fourier transform infrared spectrometer (BRUKER TENSOR 27, German). The textural property was determined at -196°C

(BET, ASAP2020HD88, USA). The thermal stability of sample was achieved using France Setaram Labsys Evo thermal analyzer (TG). Raman spectrum was scanned using a Raman spectrometer (HORIBA HR800, Japan). The surface element of sample was measured by X-ray photoelectron spectroscopy (XPS, American). Compression test was performed on an INSTRON 5544 (USA) with a load capacity of 0.001 to 250 N.

Supplementary figures.

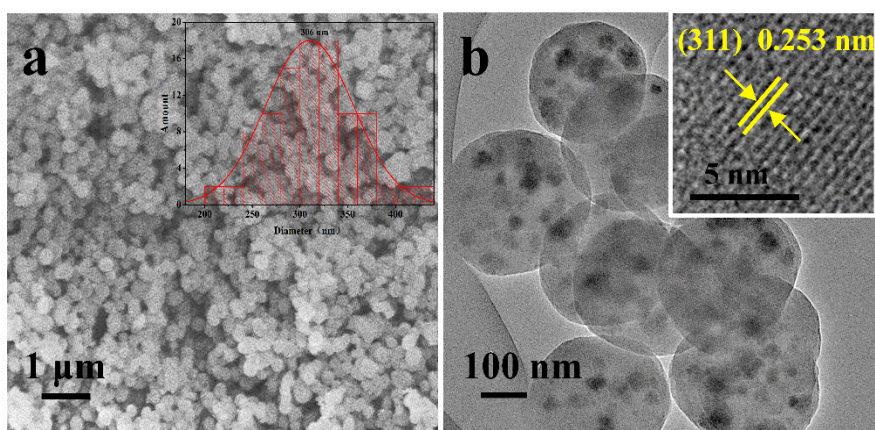


Fig. S1 (a) FESEM and (b) TEM images of MCNS.

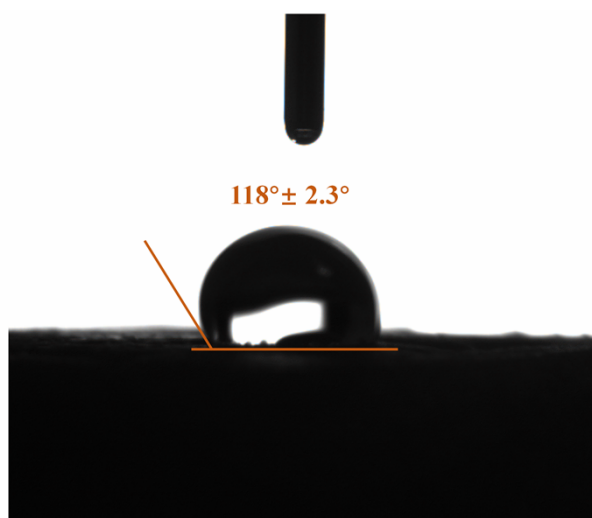


Fig. S2 Water contact angle of MCA.

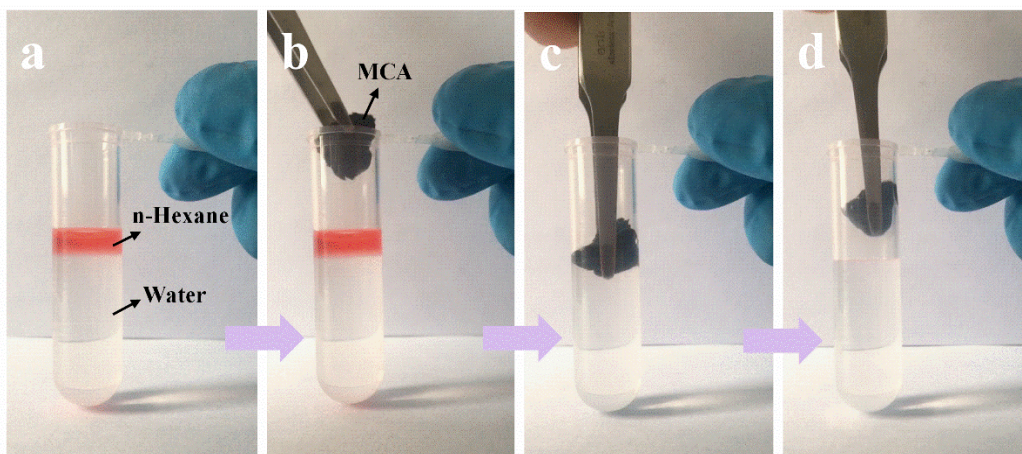


Fig. S3 The light oil adsorption test of MCA.

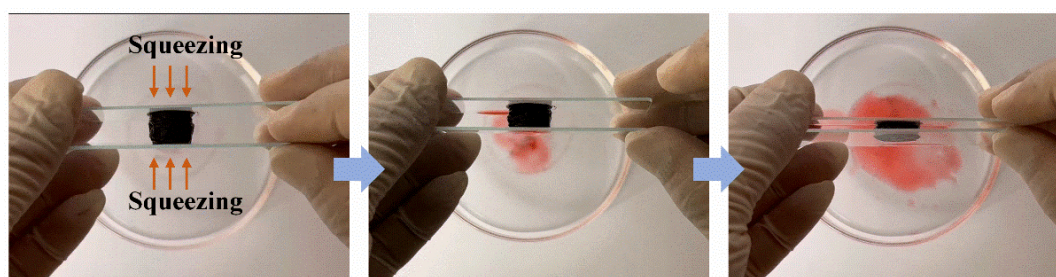


Fig. S4 The photographs displaying the recovery of n-Hexane via squeezing.