

Supporting Information

A Facile Approach to Silica-Modified Polysulfone Microfiltration Membranes for Oil-in-Water Emulsion Separation

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Supplementary Figure Captions:

Table S1 Surface compositions (in atomic percentage) of these SiO₂-decorated RGM-PSF surfaces prepared from different rinse times.

Figure S1 Schematic diagram of the experimental setup for dead-end filtration.

Figure S2 Particle size distribution of the diesel-in-water emulsion.

Figure S3 Sketch of pressure-flow rate curve and variation in the pore size distribution with diameter for the blank RGM-PSF measured by LLP.

Figure S4 XPS spectra and corresponding Si 2p peaks of the silica-modified RGM-PSF surfaces prepared from different rinse times.

Figure S5 Sketch of pressure-flow rate curve and variation in the pore size distribution with diameter for the SiO₂-decorated RGM-PSF measured by LLP.

Figure S6 Variation in the pore size distribution with diameter for the blank (left) and silica-modified (right) RGM-PSF measured by image pro plus.

Figure S7 Pure water flux of the blank and SiO₂-decorated RGM-PSF, at the operating pressures of 0.05 and 0.10 MPa, respectively.

Figure S8 Change in the water contact angle with time and decreased rate for the blank and SiO₂-decorated RGM-PSF.

Figure S9 Rejection of diesel-in-water emulsion with increasing pressure for the blank and SiO₂-decorated RGM-PSF detected by infrared spectrophotometry.

Sample	C 1s (%)	O 1s (%)	S 2p (%)	Si 2p (%)
0 h	71.04	23.04	1.77	4.15
12 h	70.25	24.63	1.60	3.52
24 h	71.52	23.08	1.69	3.71

Table S1

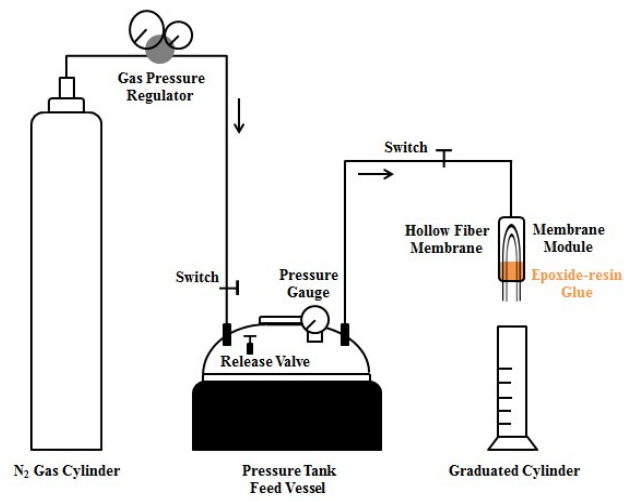


Figure S1

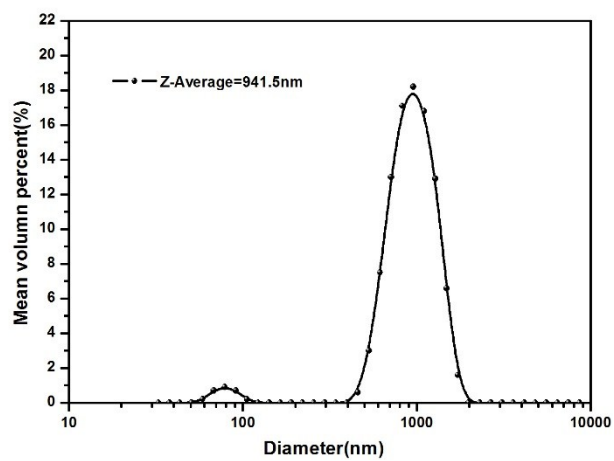


Figure S2

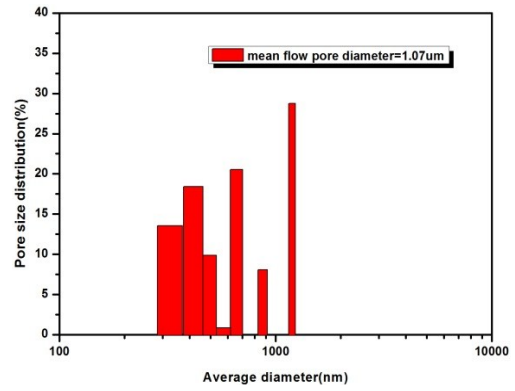
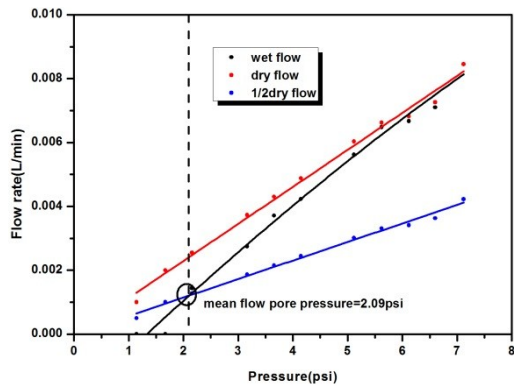


Figure S3

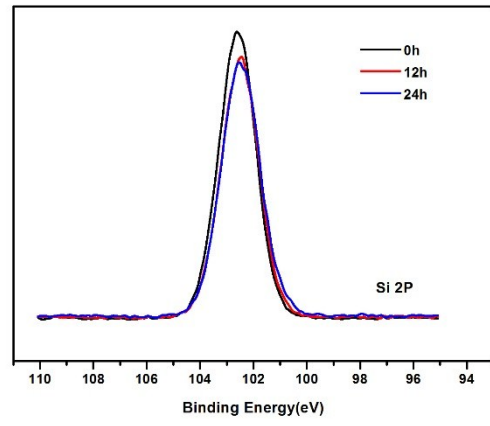
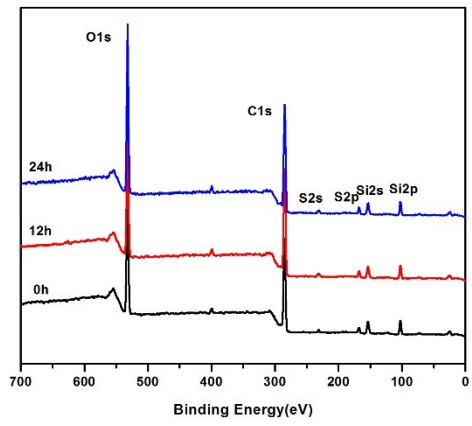


Figure S4

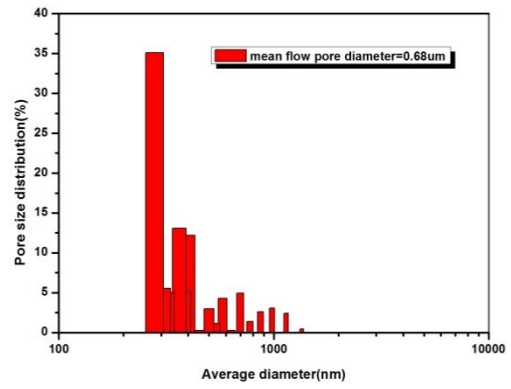
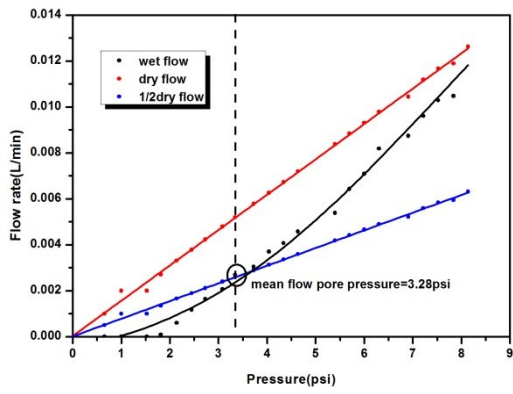


Figure S5

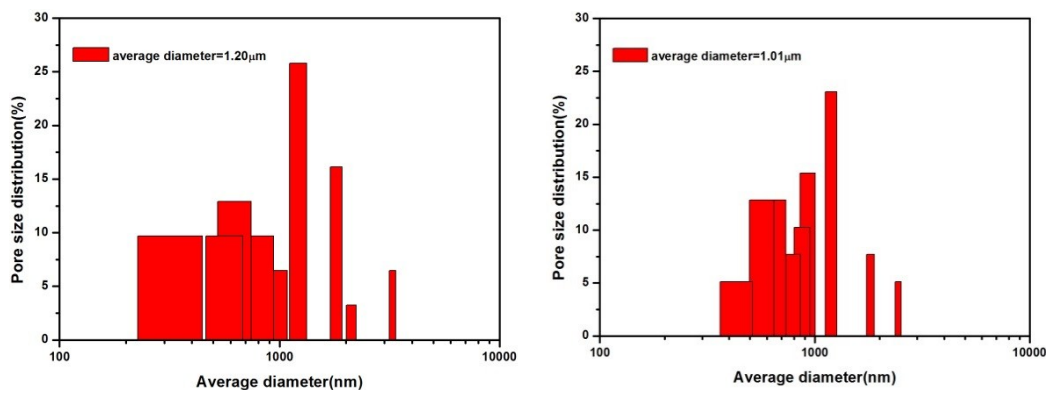


Figure S6

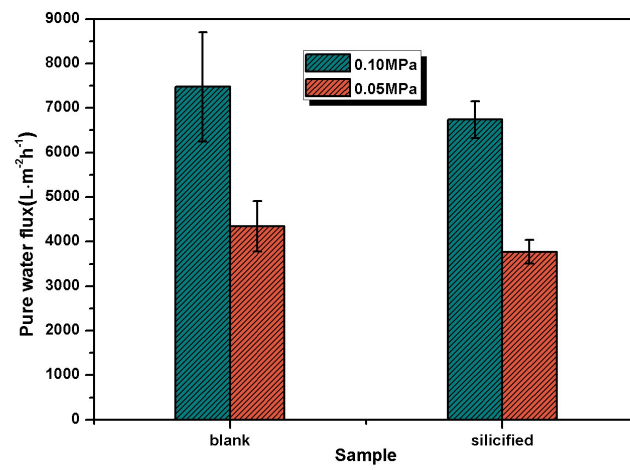


Figure S7

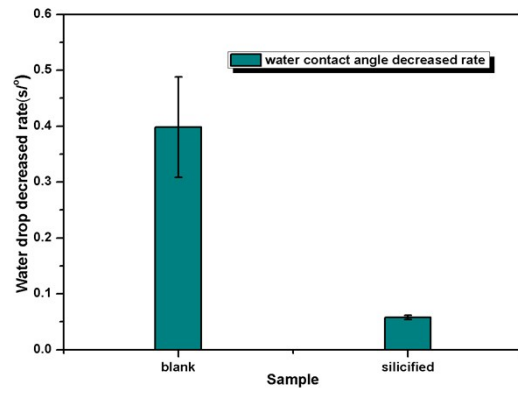
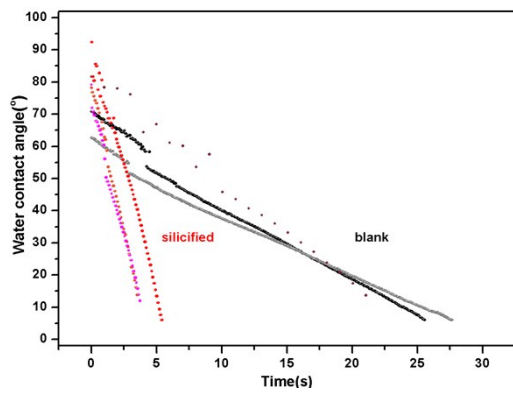


Figure S8

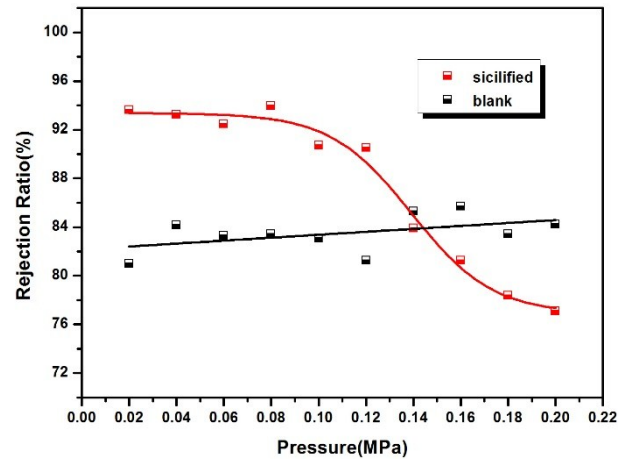


Figure S9