

Supporting Information

Enhanced separation and antifouling performance of reverse osmosis membrane incorporated with carbon nanotubes functionalized by atom transfer radical polymerization

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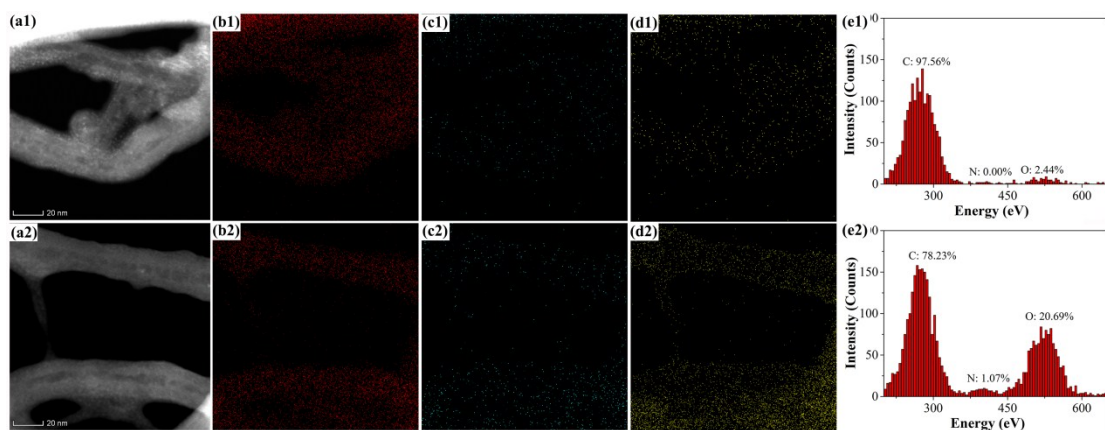


Fig. S1. HAADF-STEM images of (a1) MWCNT-COOH and (a2) PAAm-6h; corresponding HAADF-STEM-EDS elemental mapping images of (1) MWCNT-COOH and (2) PAAm-6h for (b) C, (c) N and (d) O, respectively; EDS spectra of (e1) MWCNT-COOH and (e2) PAAm-6h. The blue signal in (c1) is the background interference of N.

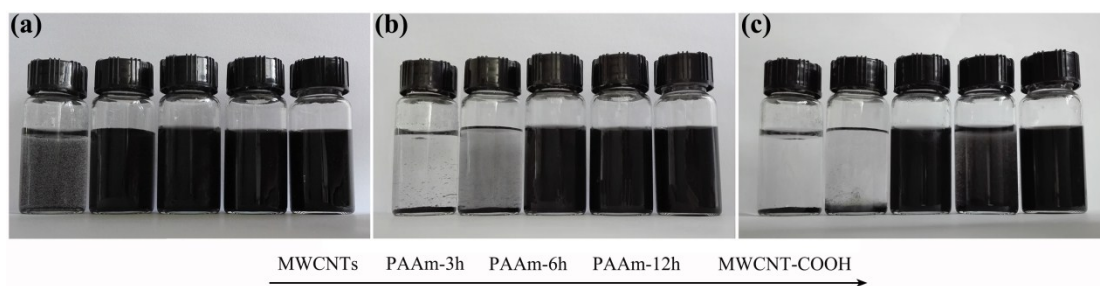


Fig. S2. The dispersion photographs in pure water (0.5 mg/mL) at (a) 0 h, after settling down for (b) 1 h and (c) 72 h of raw MWCNTs and functionalized MWCNTs at 25 °C.

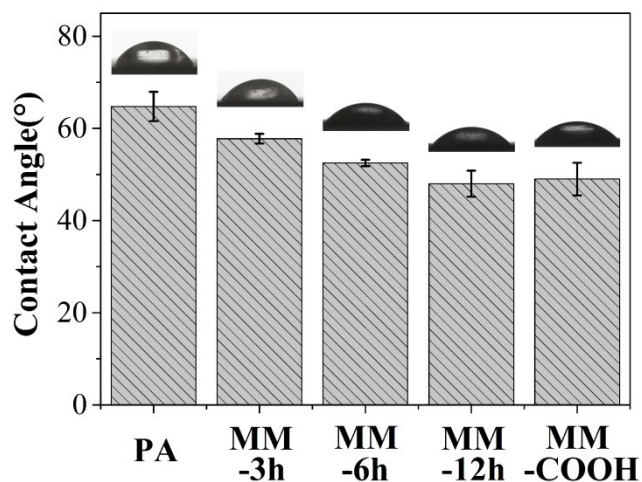


Fig. S3. Static water contact angles of RO membranes.

Table S1. Results of water flux and salt rejection values of RO membranes prepared with different concentrations of PAAm-6h MWCNTs

Concentration [wt%] ^a	Water flux (L·m ⁻² ·h ⁻¹)	Rejection (%)
0	36.0±1.3	97.9±0.9
0.0025	38.4±1.5	98.2±0.6
0.005	48.4±0.9	98.9±0.9
0.0075	68.5±1.1	90.0±0.8
0.01	105.7±3.5	15.8±0.5

^a wt% in aqueous solution using interfacial polymerization