Supporting information

High-flux fine hollow fiber nanofiltration membrane for the purification of drinking water

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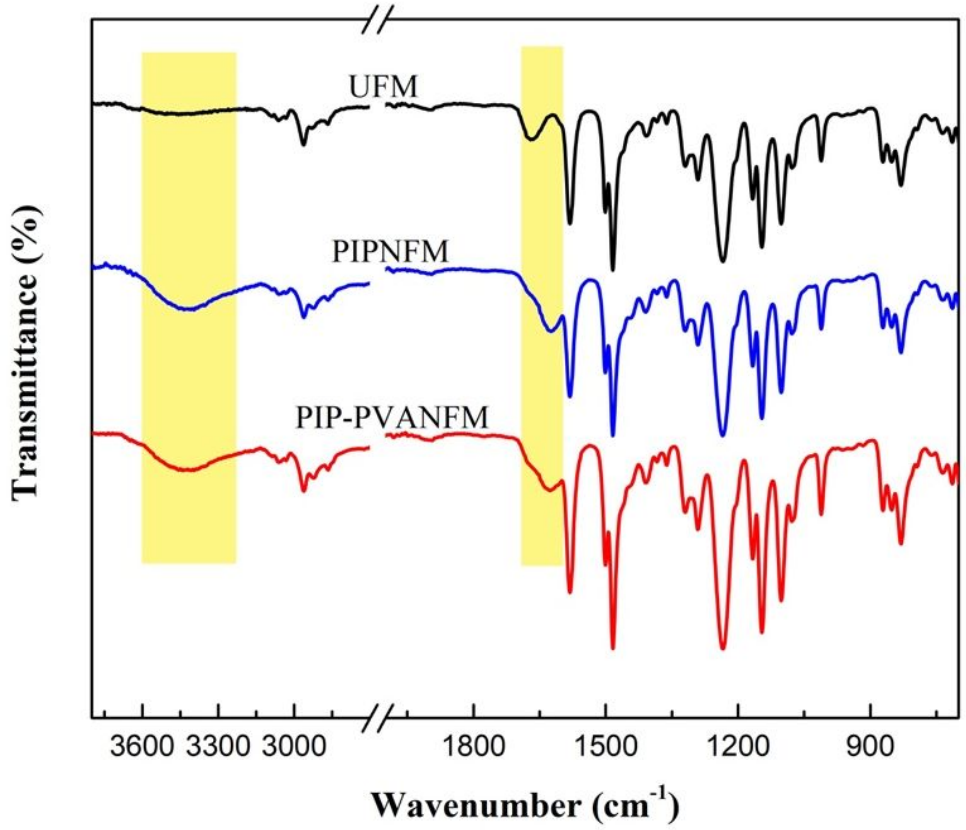

Figure S1. FT-IR spectra for UFM, PIPNFM and PIP-PVANFM over wave numbers of 3800-700 cm^{-1}.

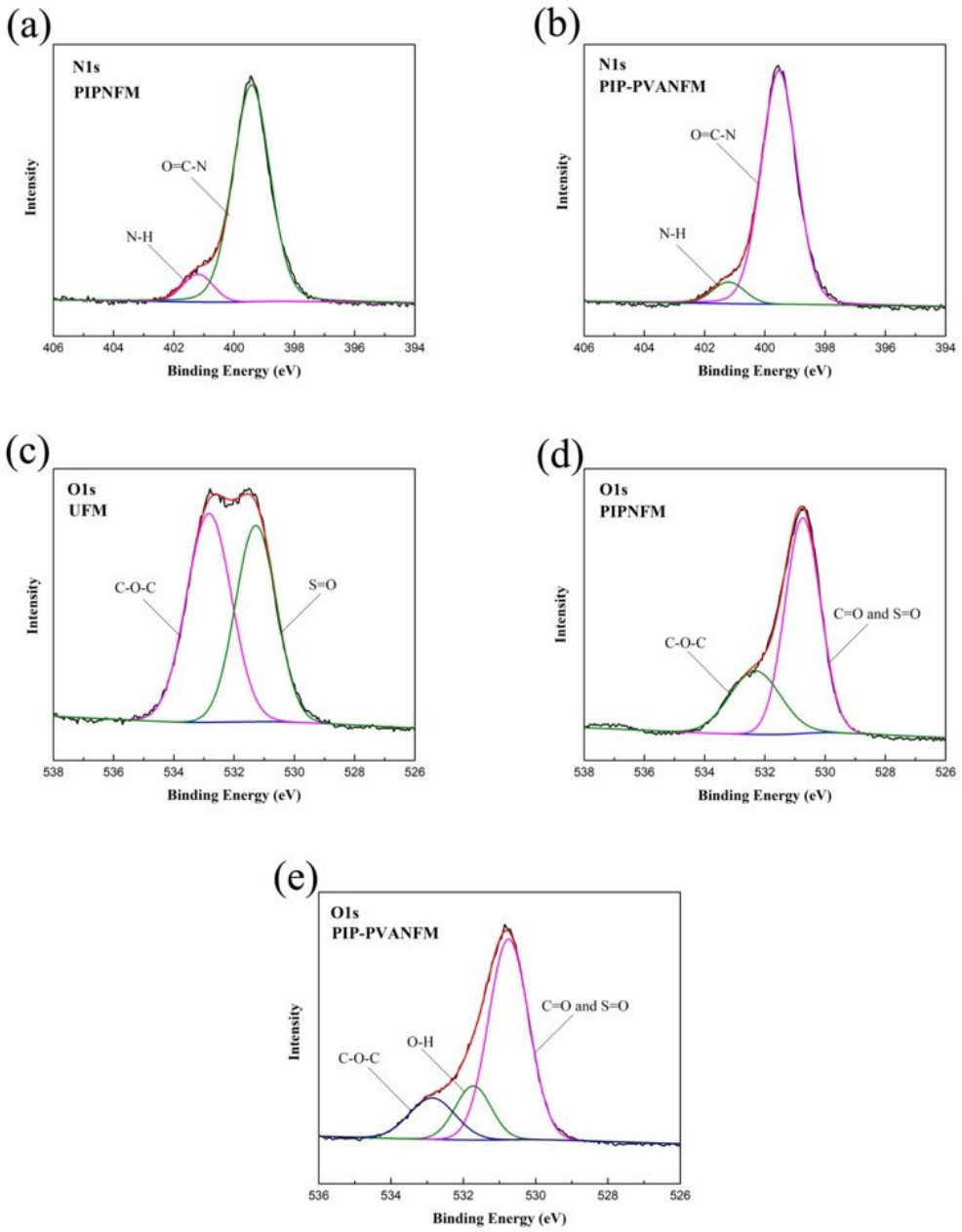

Figure S2. (a) N1s spectra of PIPNFM, (b) N1s spectra of PIP-PVANFM, (c) O1s spectra of UFM, (d) O1s spectra of PIPNFM, (c) O1s spectra of PIP-PVANFM.

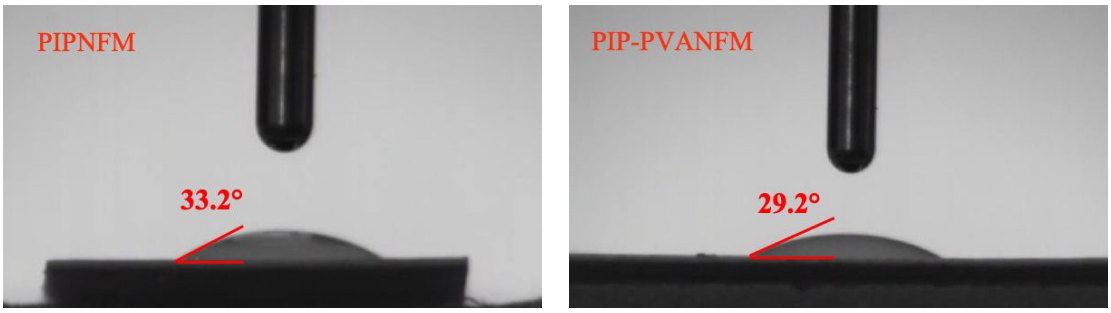

Figure S3. The water contact angle of PIPNFM and PIP-PVANFM.

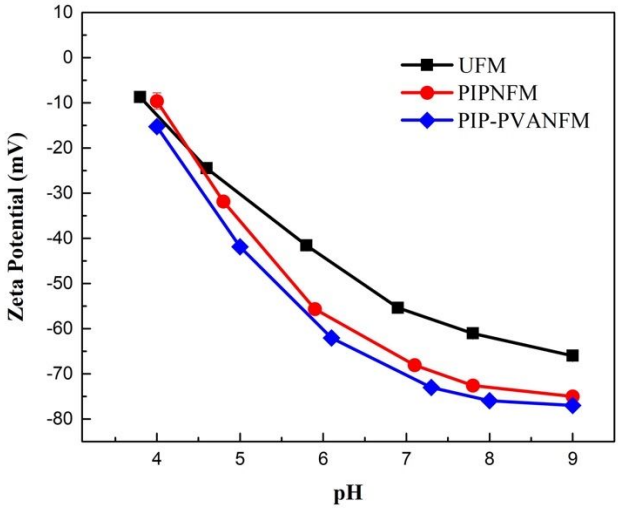

Figure S4. The zeta potential of UFM, PIPNFM and PIP-PVANFM.

Water/salt permeability selectivity was calculated by following equation[1]:

$$\frac{1}{A} = \frac{\Delta p - \Delta c_s RT}{J_w} \#(S1)$$

where Δp is the transmembrane pressure, Δc_s is the changes of salt concentration, R is the gas constant (83.1 $cm^3 \cdot bar \cdot K^{-1} \cdot mol^{-1}$), T is the operating temperature (K), J_w is the pure water flux ($L \cdot m^{-2} \cdot h^{-1}$).

$$\frac{1}{B} = \frac{\Delta c_s}{J_s} \#(S2)$$

where J_s is the salt flux ($L \cdot m^{-2} \cdot h^{-1}$)

$$P_w = \frac{ALRT}{M_w} \#(S3)$$

where L is the thickness of PA layer, M_w is the molecular weight of water ($g \cdot mol^{-1}$)

$$P_s = B \times L \#(S4)$$

References

(1) Tan, Z.; Chen, S. F.; Peng, X. S.; Zhang, L.; Gao, C. J. Polyamide membranes with nanoscale Turing structures for water purification. *Science* **2018**, *360*, 518-521.