Electronic Supplementary Material (ESI) for RSC Advances.

Enhanced oil-fouling resistance of poly(ether sulfone) membrane by incorporating novel amphiphilic zwitterionic copolymers

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Table S1 The zwitterionic conversions of amphiphilic copolymer precursor.

Samples	Conversion (%)
P1	88.2
P2	79.3
P3	80.1

Table S2 Porosity of the control and modified PES membranes.

Membranes	Porosity (%)
PES	75.6 ± 0.8
PES/P0	74.0 ± 0.7
PES/P1	79.7 ± 1.0
PES/P2	74.9 ± 0.8
PES/P3	73.4 ± 0.6

Table S3 The static contact angles of PES and PES blend membranes.

Membranes	Water (deg)	Glycerol (deg)	HD (deg) [a]	GS-1 (deg)
PES	81.7 ± 1.8	69.7 ± 1.6	8.4 ± 0.9	29.5 ± 1.3
PES/P0	72.1 ± 1.7	62.4 ± 1.6	8.1 ± 0.8	28.5 ± 1.3
PES/P1	86.8 ± 1.8	78.8 ± 1.7	14.1 ± 1.2	35.6 ± 1.4
PES/P2	88.1 ± 1.6	82.0 ± 1.6	19.4 ± 1.1	38.6 ± 1.2
PES/P3	93.4 ± 1.9	92.2 ± 1.8	45.5 ± 1.3	72.0 ± 1.5

[a] HD refers to Hexadecane.

Table S4 The pure water flux (J_{w1}), total flux-decline ratio (DR_t), reversible flux-decline ratio (DR_r), irreversible flux-decline ratio (DR_{ir}), flux recovery ratio (FRR), and retention of oil for the as-prepared membranes in oil/water emulsion filtration experiments**.**

Membranes	J_{w1} (L/(m^2 h))	J_p (L/(m^2 h))	J_{w2} (L/(m^2 h))	DR_t (%)	DR_r (%)	DR_{ir} (%)	FRR (%)	Retention (%)
PES	128.1	64.3	95.4	49.8	24.3	25.5	74.5	99.8
PES/P0	149.7	68.0	125.3	54.6	38.3	16.3	83.7	99.5
PES/P1	144.5	84.8	125.6	41.3	28.2	13.1	86.9	99.4
PES/P2	117.5	81.3	110.7	30.8	25.0	5.8	94.2	99.6
PES/P3	102.9	85.0	102.2	17.4	16.7	0.7	99.3	99.9

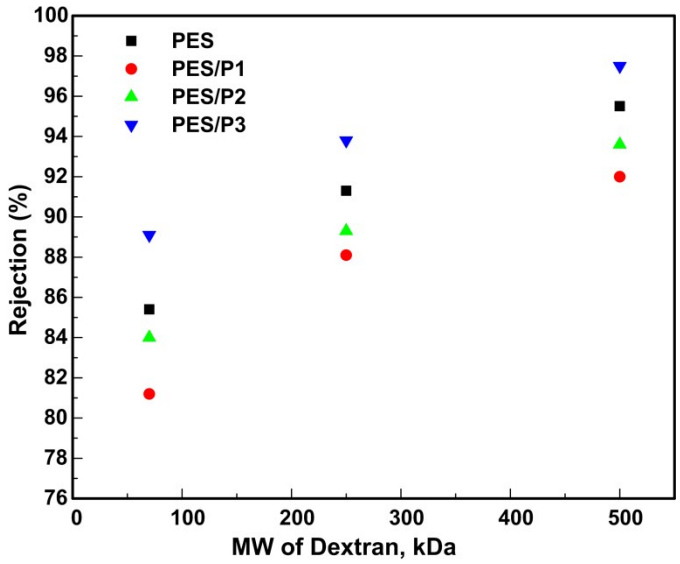

Fig. S1. Molecular weighs cut-off for control PES and modified membranes.