Supporting information for

Hydrophilic Mineral Coating of Membrane Substrate for Reducing Internal Concentration Polarization (ICP) in Forward Osmosis

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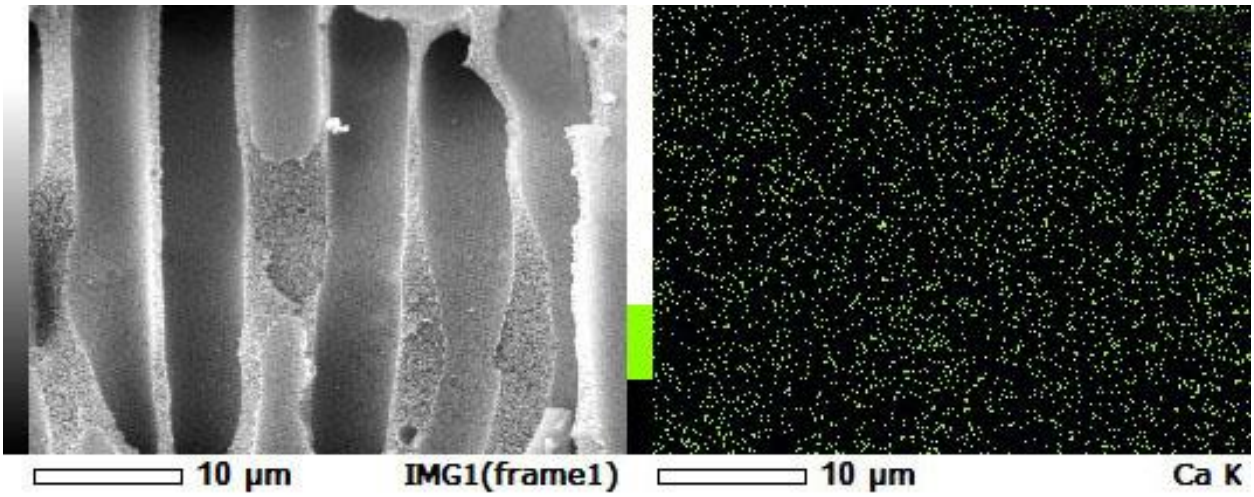

Figure S1: EDX result of the cross-section of PES/PAA5/$CaCO_3$ membrane

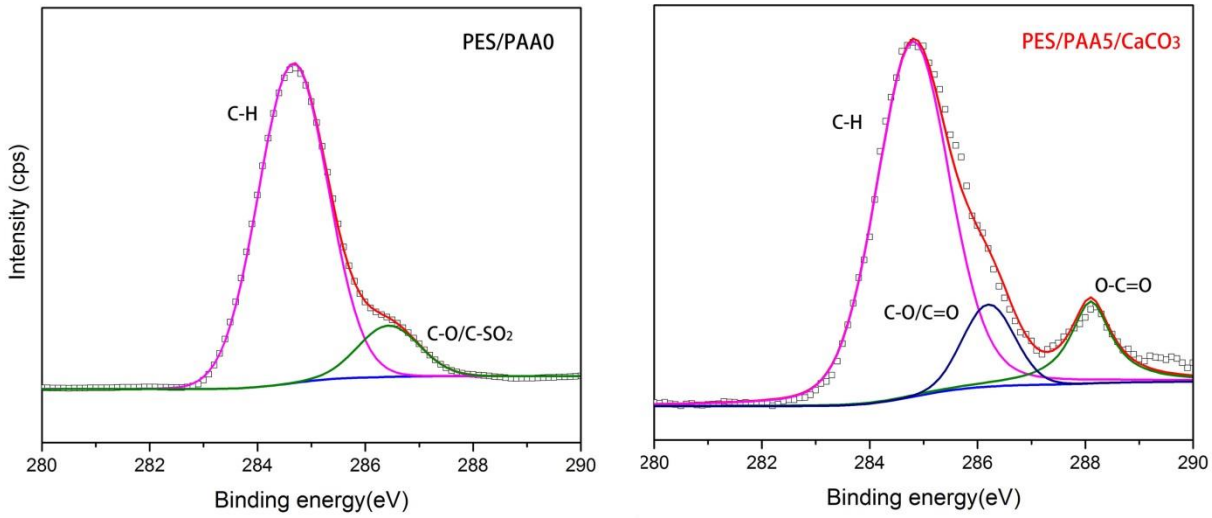

Figure S2: C 1s core level spectra of membranes

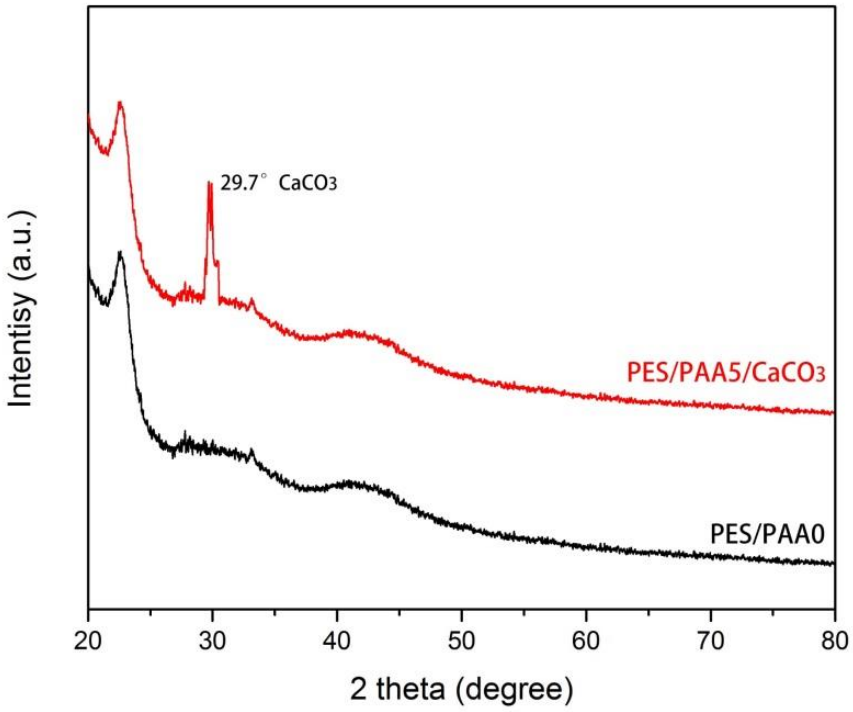

Figure S3: XRD patterns of PES/PAA0 membrane and PES/PAA5/$CaCO_3$ membrane.

Membrane	Young's modulus (MPa)	Tensile strength (MPa)	Elongation at break (%)
PES	152.0 ± 22.4	4.28 ± 0.6	17.1 ± 4.3
PES/PAA5	89.2 ± 11.6	3.69 ± 0.4	23.1 ± 5.2
PES/PAA5/$CaCO_3$	246.1± 35.6	5.74 ± 0.7	3.77 ± 2.6

Table S1: Mechanical properties of membranes

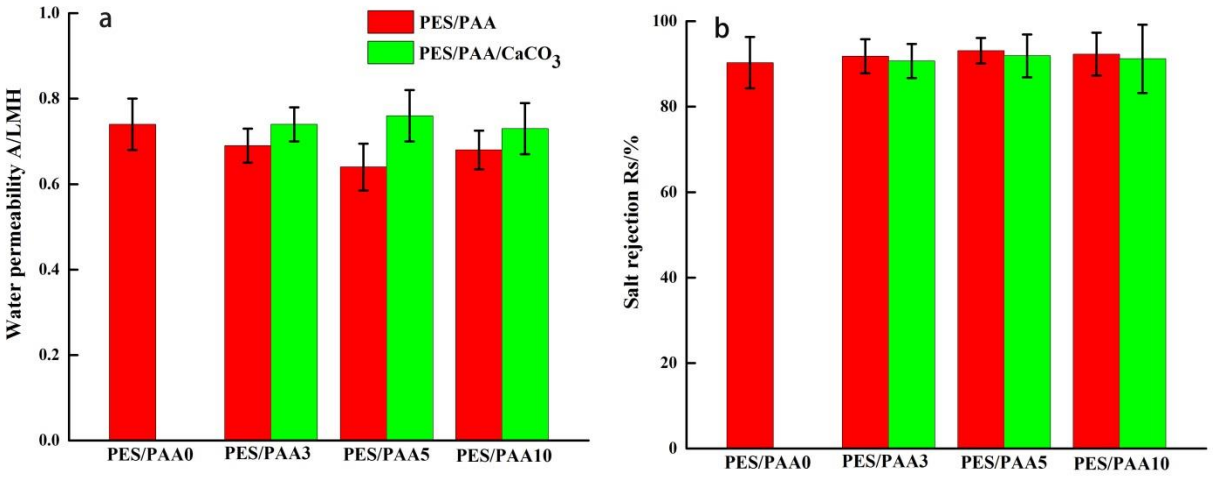

Figure S4: Intrinsic transport parameters (water permeability (A) and the salt (NaCl) rejection (R)) of membranes

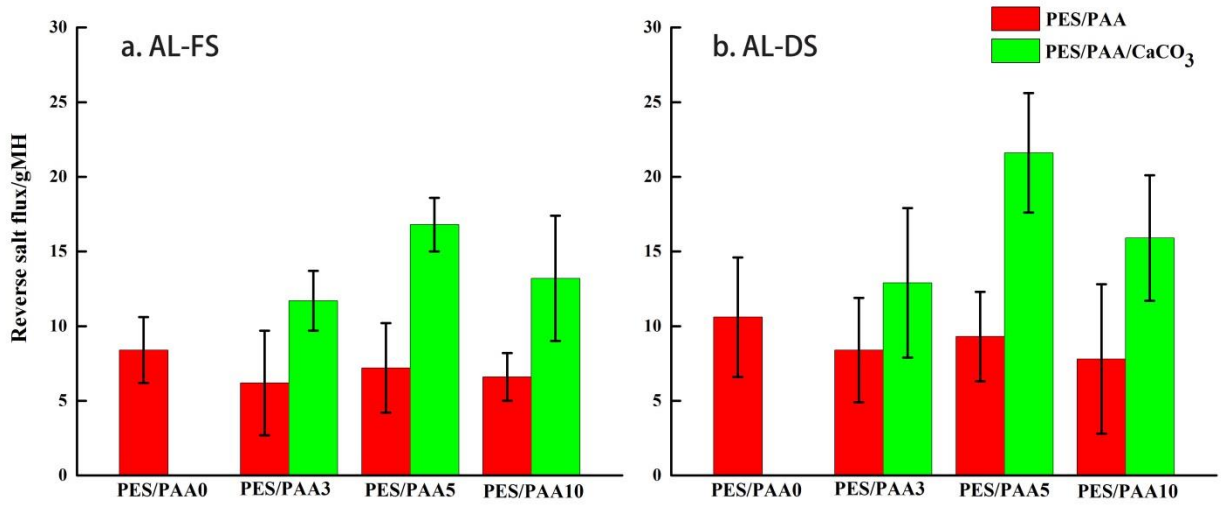

Figure S5: FO reverse salt flux of membranes at (a) AL-FS orientation and (b) AL-DS orientation

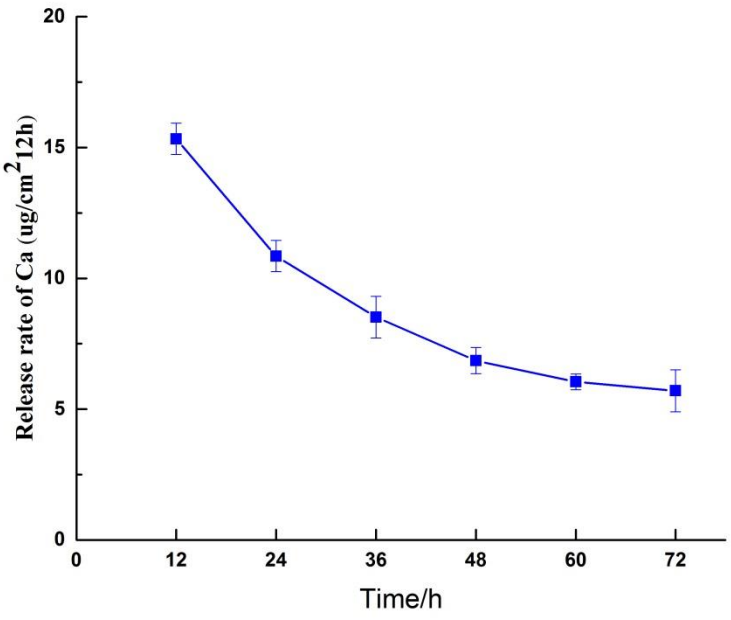

Figure S6: Calcium releasing rate of the PES/PAA5/$CaCO_3$ membrane.

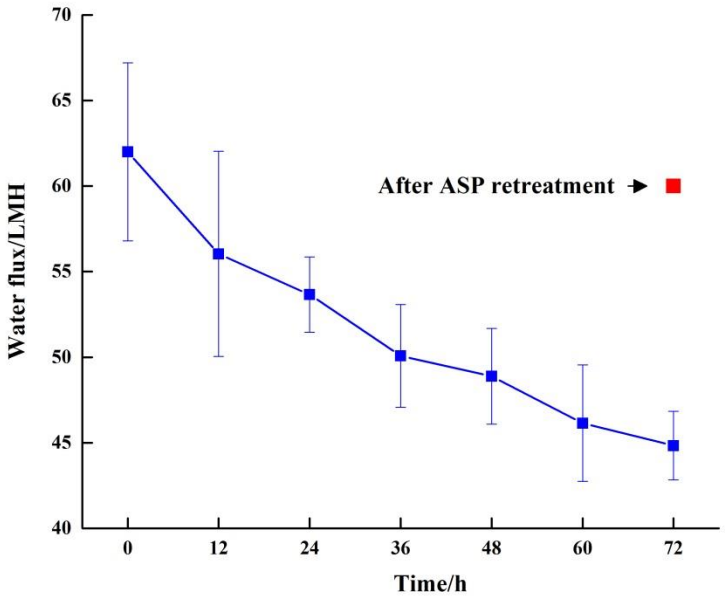

Figure S7: FO water flux decline in AL-DS mode with time