

Supplemental material

1.

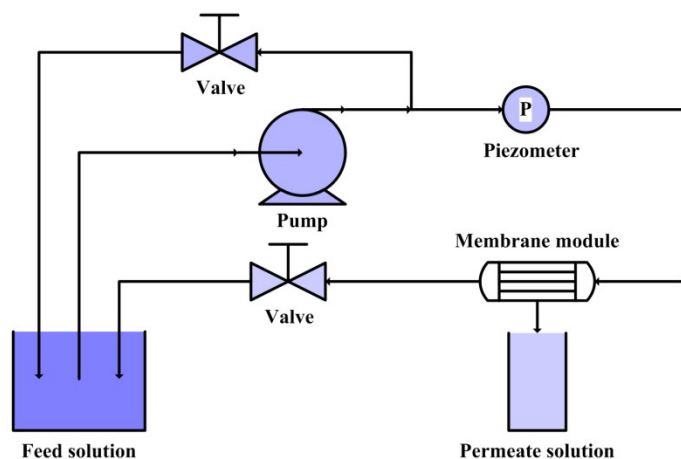


Fig. S1. Schematic diagram of the equipment used to measure filtration performances

2.

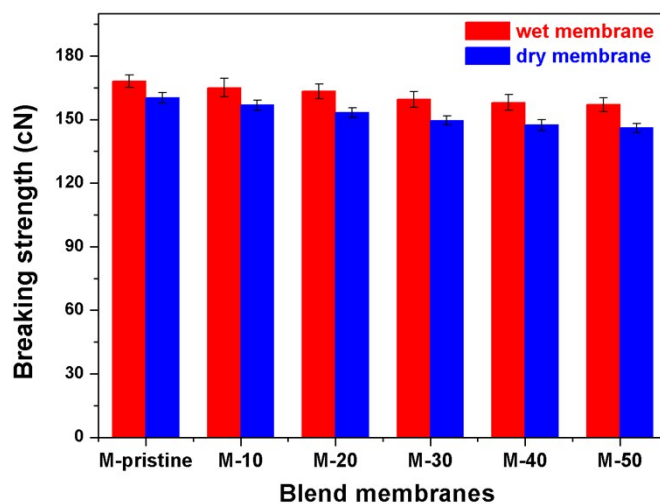


Fig. S2. Mechanical properties of blend membranes. Data were means  $\pm$  SD ( $n = 3$ ).

3. The segregation amount of ACMO  $\phi_s$  (ACMO%) was calculated using the following equation:

$$M_{N-C=O} = \frac{A_{N-C=O}}{A_{N-C=O} + A_{C-C}} \quad (1)$$

$$M_{N-C=O} = a \cdot (1 - \phi_s) + b \cdot \phi_s \quad (2)$$

Where  $M_{N-C=O}$  for carbonyl carbon percentage;  $A_{N-C=O}$  and  $A_{C-C}$  are corresponding to the peak of carbonyl carbon and the alkyl carbon peak area in XPS analysis results, respectively; a and b are the carbonyl carbon content in PVDF and PACMO.

4.

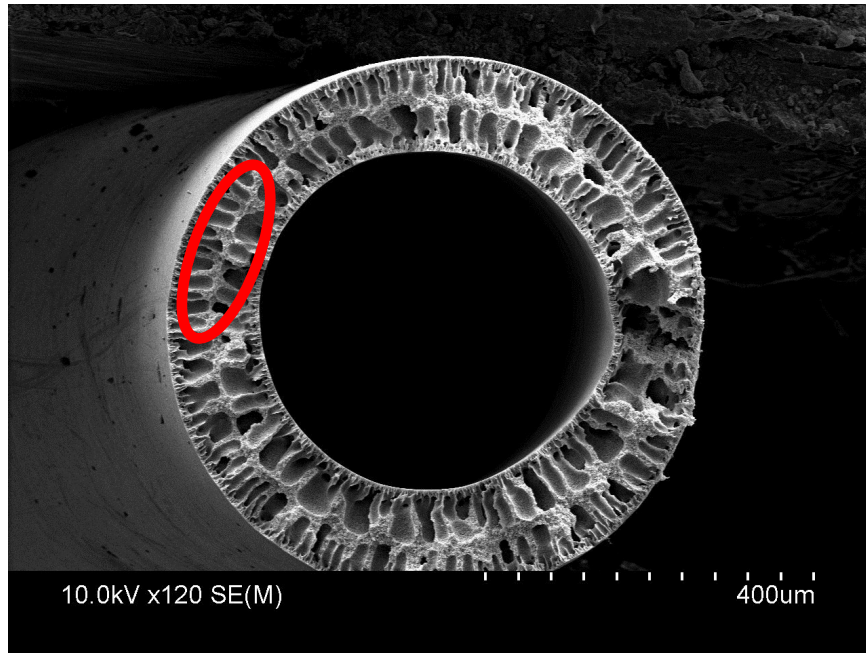


Fig. S3. SEM image of Cross-section