

Supplementary Materials

for

Preparation of a novel zwitterionic striped surface thin-film composite nanofiltration membrane with excellent salt separation performance and antifouling property

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This supporting information contains the following:

S1. The detailed fabrication process was illustrated in support information

S2. The Fig. of the effect of preparation condition in membrane condition

S1. The detailed fabrication process was illustrated in support information

In detail, the PSF UF membrane was fixed with an epoxy resin frame, immersed in DI water. The TA solution was prepared by dissolving TA in phosphate buffer solution (pH = 8.0), followed by mixing with a taurine aqueous solution and PEI aqueous solution. IP was subsequently performed by soaking the membranes in an organic solution of 0.1% weight per volume (w/v) TMC in isopar L. After 1 min reaction time, the excess solution was removed, and the membranes were further dried at 70 °C in a

blast oven. Finally, the obtained TFC NF membrane was washed with DI water and soaked in DI water for use.

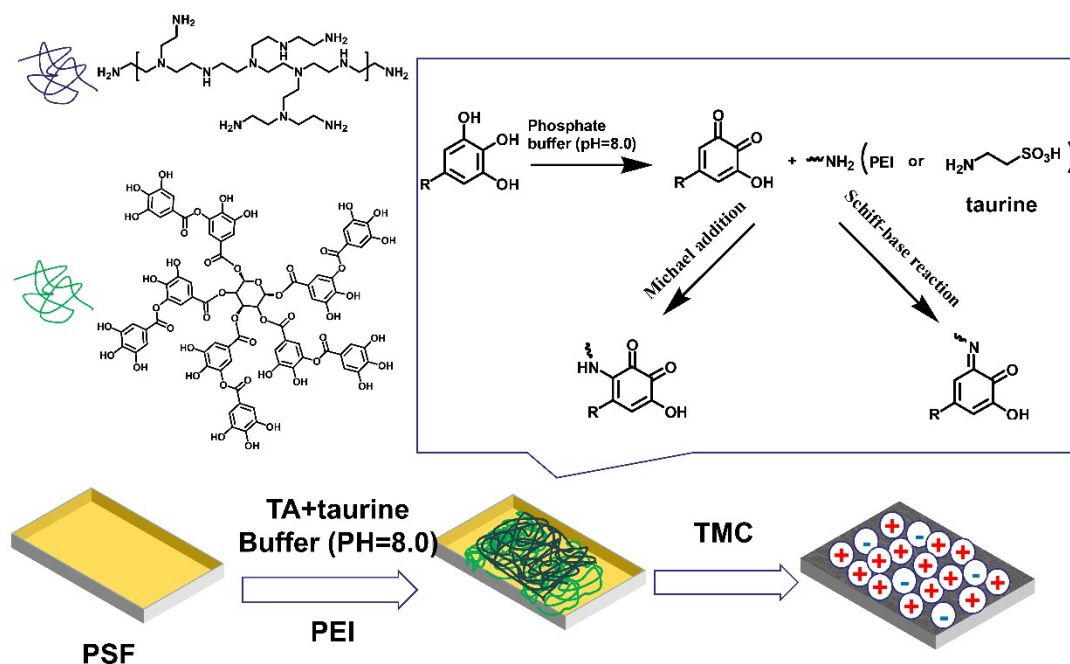


Fig. S1 The process of membrane preparation and the proposed mechanism of the reaction between TA, PEI, and taurine.

S2. The Fig. of the effect of preparation condition in membrane condition

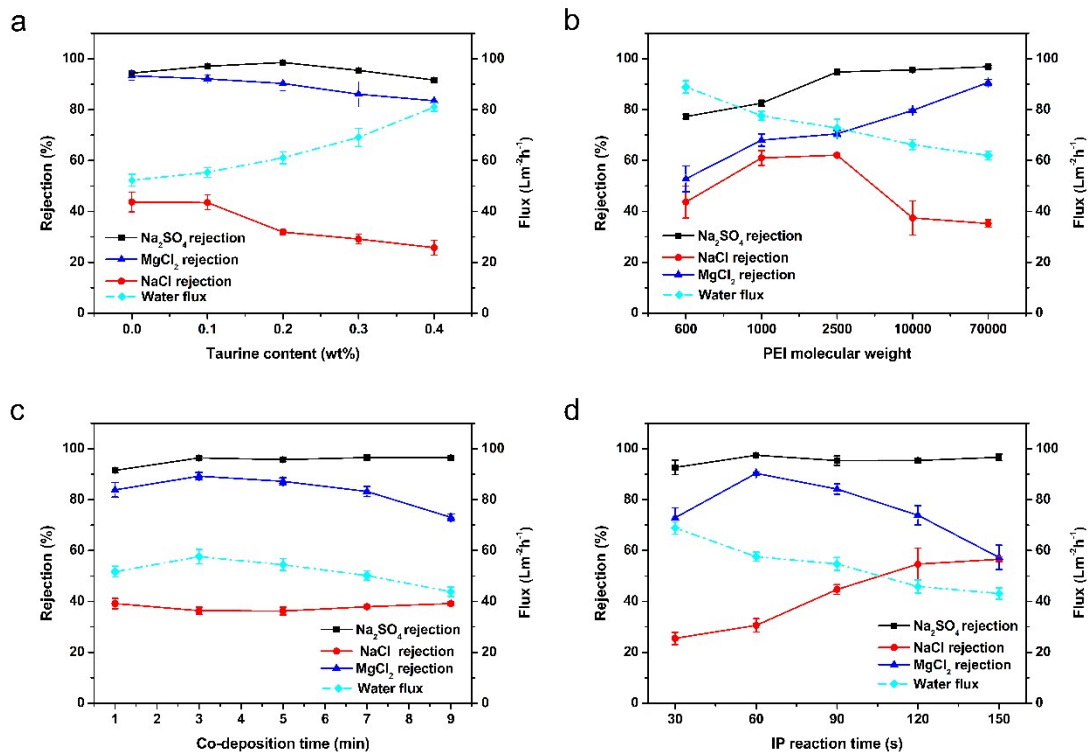


Fig. S2 The effect of preparation condition in membrane condition: (a) the effect of the taurine content on the membrane performance (b) the effect of the co-deposition time on membrane performance (c) the effect of the molecular weight of PEI on membrane performance (d) the effect of the IP reaction time on membrane performance.