membranes

Supplementary Materials

Recent Advancements in Polyphenylsulfone Membrane Modification Methods for Separation Applications

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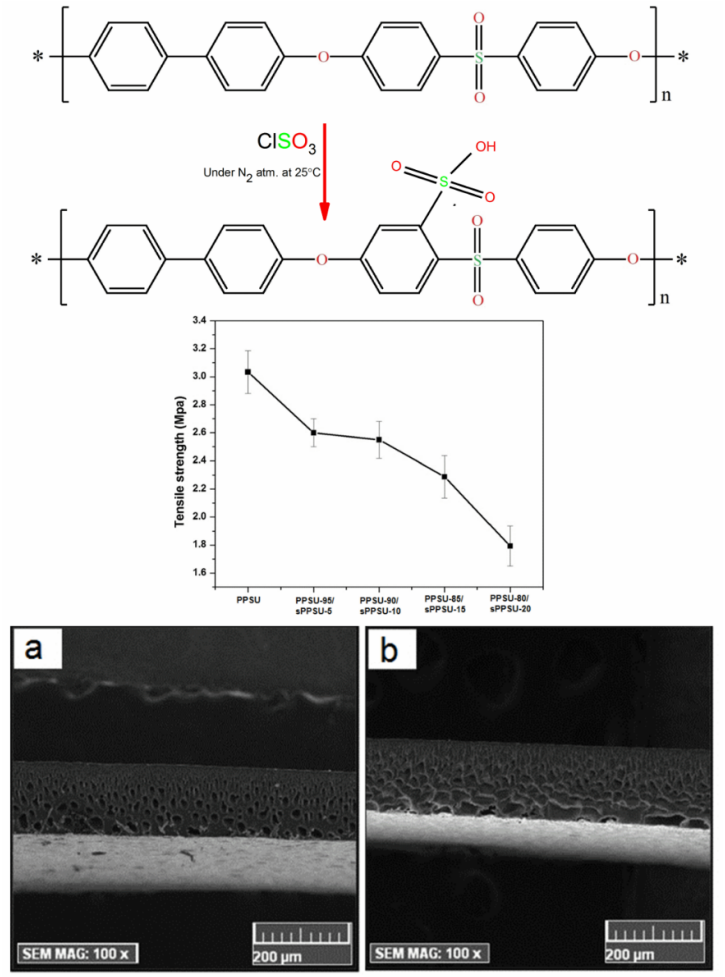

Figure S1. Chemical structure of sulfonation reaction of polyphenylsulfone, prepared membranes mechanical strength, and their cross-sectional morphological images of (a) PPSU (b) sPPSU [1].

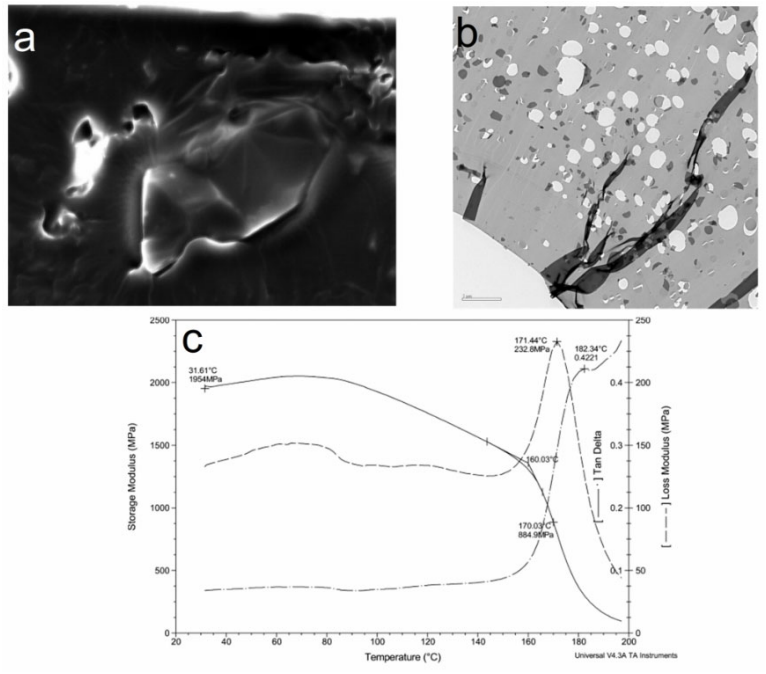

Figure S2. The prepared sPPSU/sPOSS membrane (a) freeze fracture SEM cross section image (b) TEM image, and (c) dynamical mechanical strength properties [2].

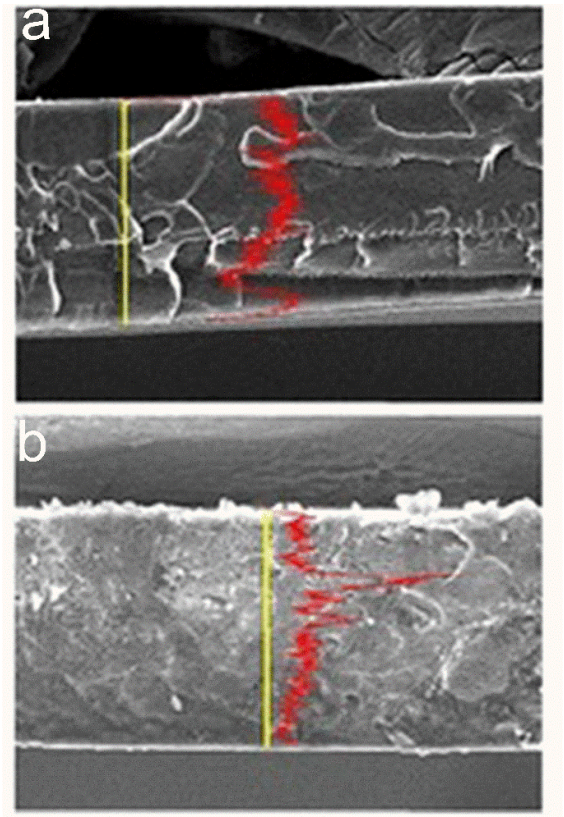

Figure S3. SEM image of membranes for gas separation (a) sPPSU (b) PIM-1/sPPSU [3].

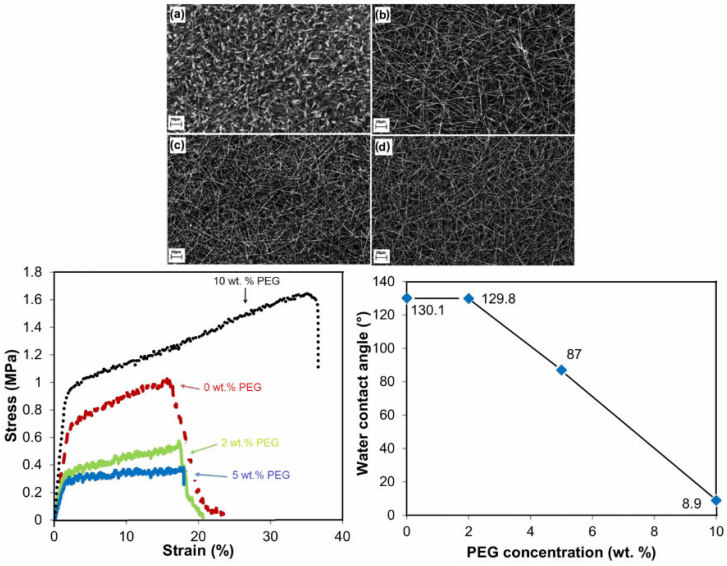

Figure S4. SEM images of the fibrous membranes surfaces with respect to the PPSU with PEG concentration in the electrospinning solution: (a) 0 wt.%, (b) 2 wt.%, (c) 5 wt.%, and (d) 10 wt.%, and mechanical properties and water contact angle [4].

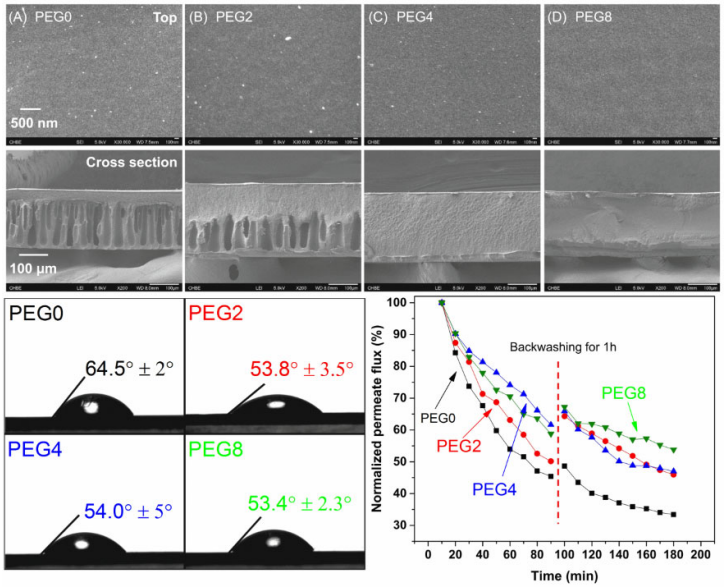

Figure S5. SEM images of the sPPSU membranes surface and cross-section, water contact angles, and filtration performance with PEG concentration [5].

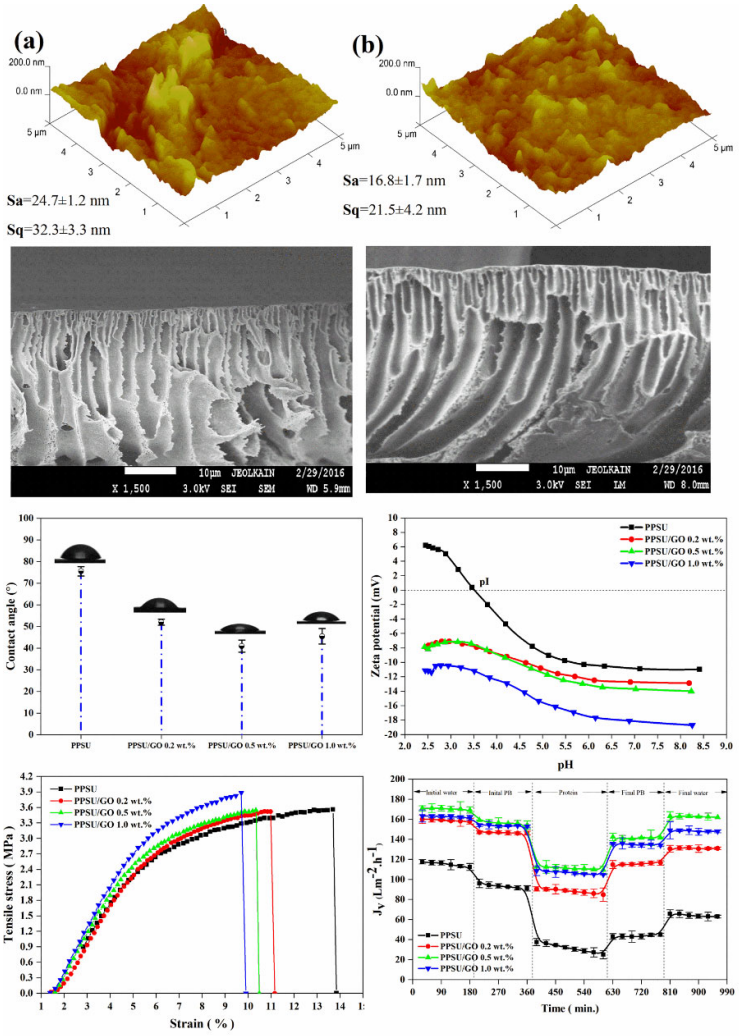

Figure S6. PPSU/GO-based blended membranes (a) AFM and SEM images of PPSU (b) AFM and SEM images of PPSU/GO; and water contact angle, surface zeta potential as a function of pH, mechanical properties using tensile tests, and time-dependent fluxes of pure water, and BSA protein [6].

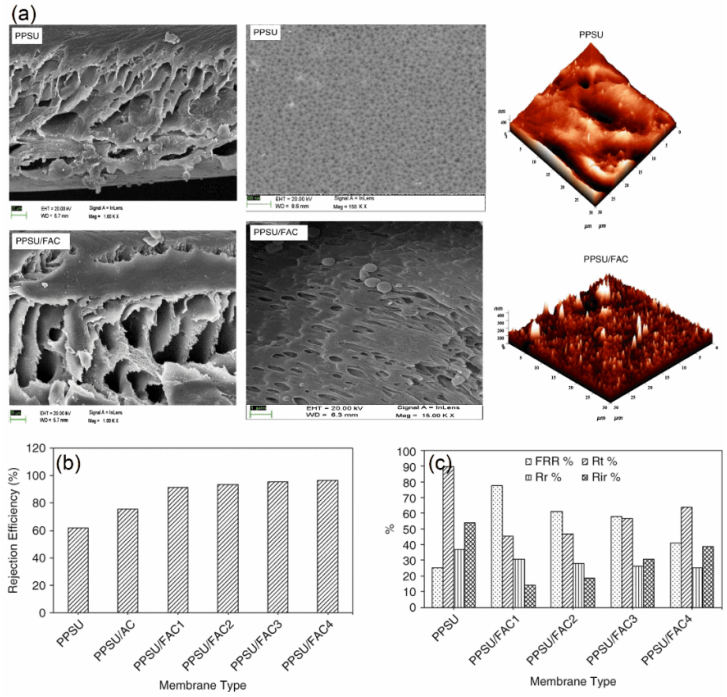

Figure S7. Modified membranes (a) cross section, top surface SEM images and 3D AFM images, (b) rejection efficiency, and (d) flux recovery and fouling resistance ratio [7].

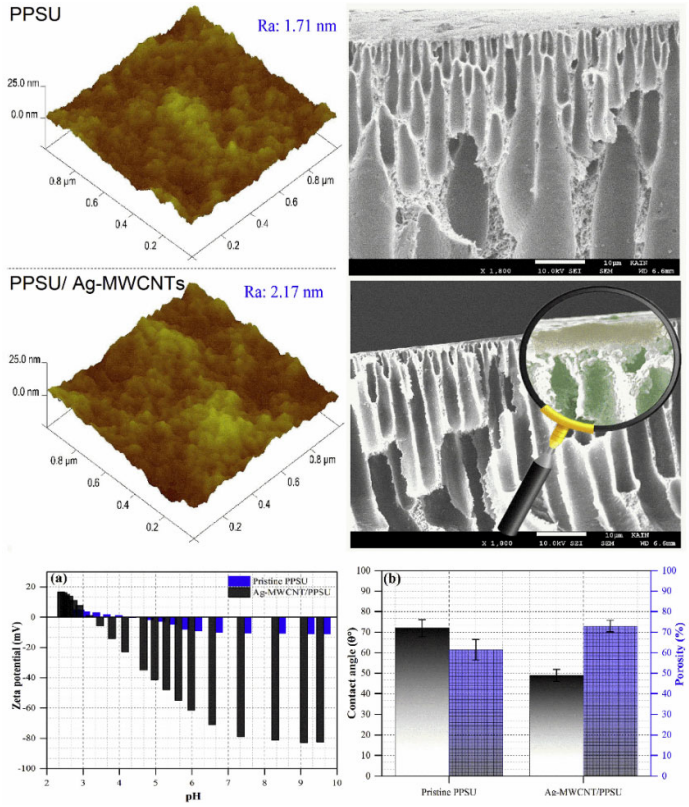

Figure S8. PPSU embedded with Ag-MWCNT membranes: 3D AFM images, low and high magnification SEM images, and (a) zeta potential as a function of pH (b) contact angle and porosity [8].

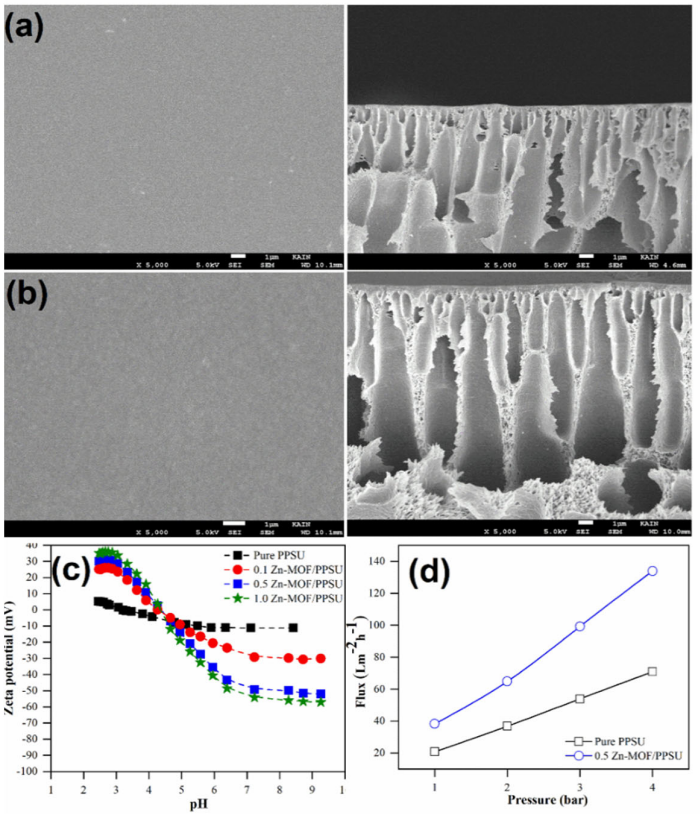

Figure S9. Modified PPSU and PPSU/Zn-MOF membranes: (a and b) surface and cross-section images, (c) zeta potential versus pH, and (d) pure water hydraulic permeability [9].

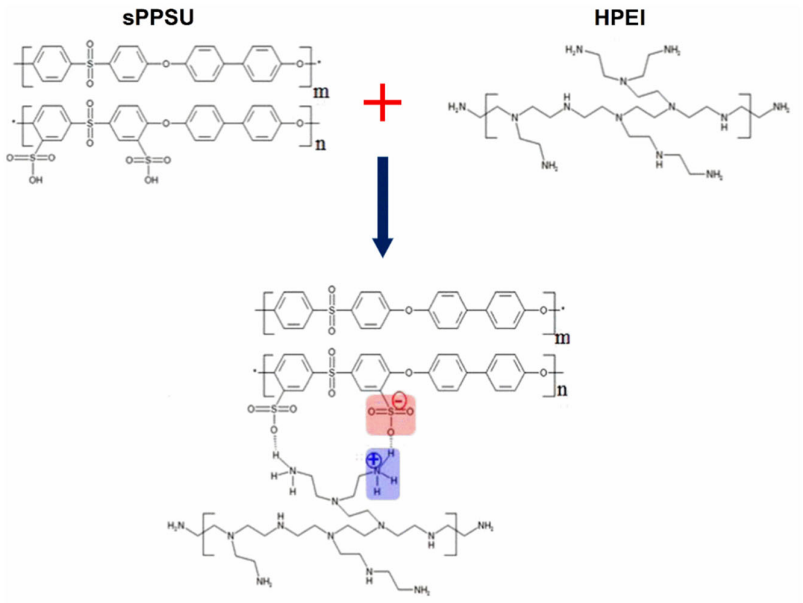

Figure S10. The ionic cross-linking reaction between sPPSU and HPEI at the membrane surface[10].

References

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