

Isoporous Polyvinylidene Fluoride Membranes with Selective Skin Layers via a Thermal-Vapor Assisted Phase Separation Method for Industrial Purification Applications

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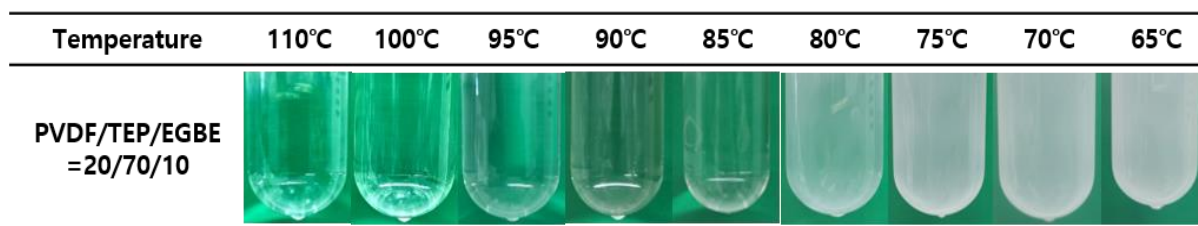


Figure S1. Photo images of the TEP-based dope solution at different temperatures.

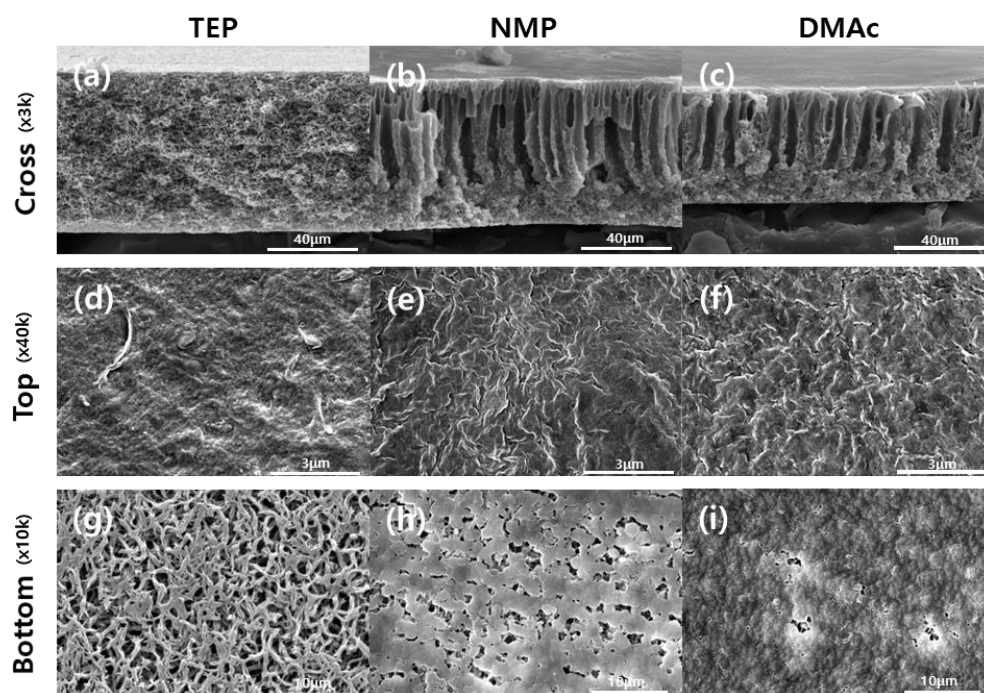


Figure S2. Cross-sectional (a-c) and surface morphologies (d-i) of membranes (PTE-1, PNE, PDE).

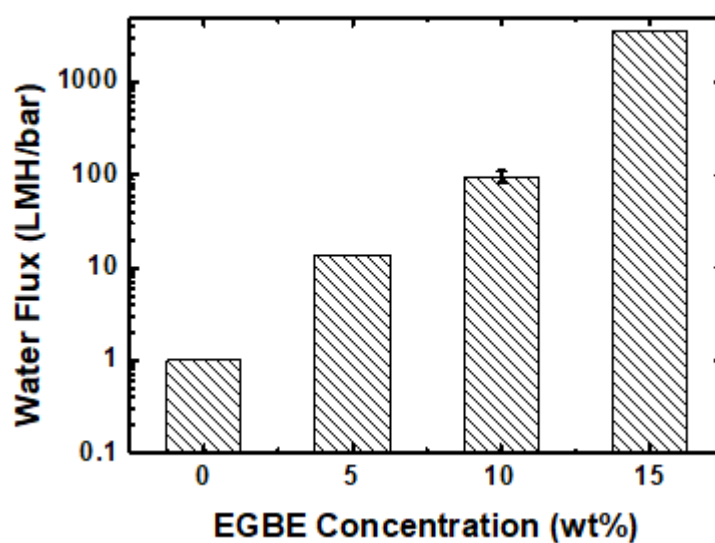


Figure S3. The effect of the EGBE concentration on the water flux.

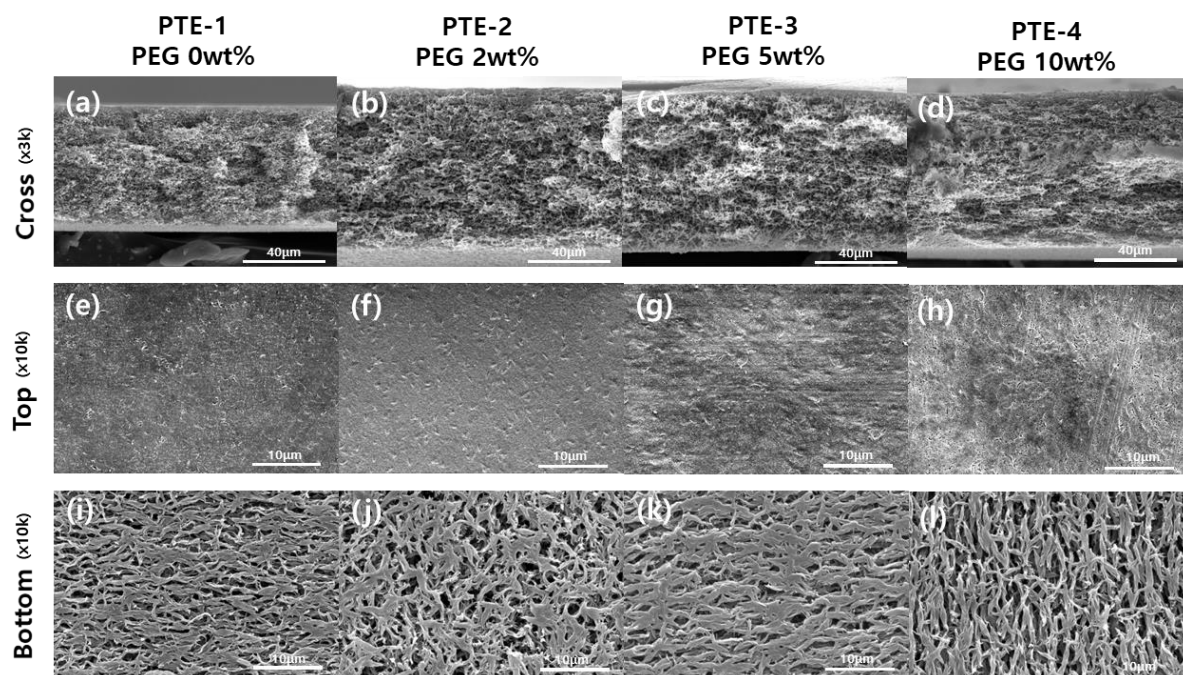


Figure S4. Cross-sectional (a-h) and surface morphologies (e-l) of PTE membranes with different PEG concentrations.

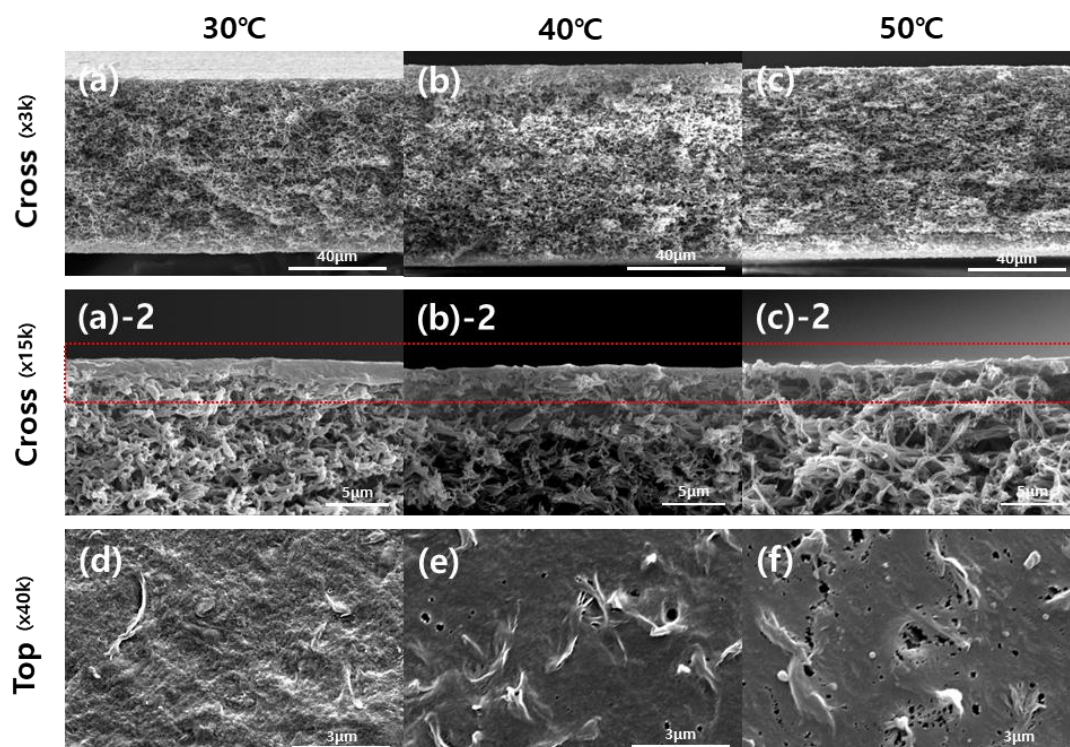


Figure S5. Effects of temperature on the skin layer thickness. Relative humidity: 50%, vapor exposure time: 30 sec.

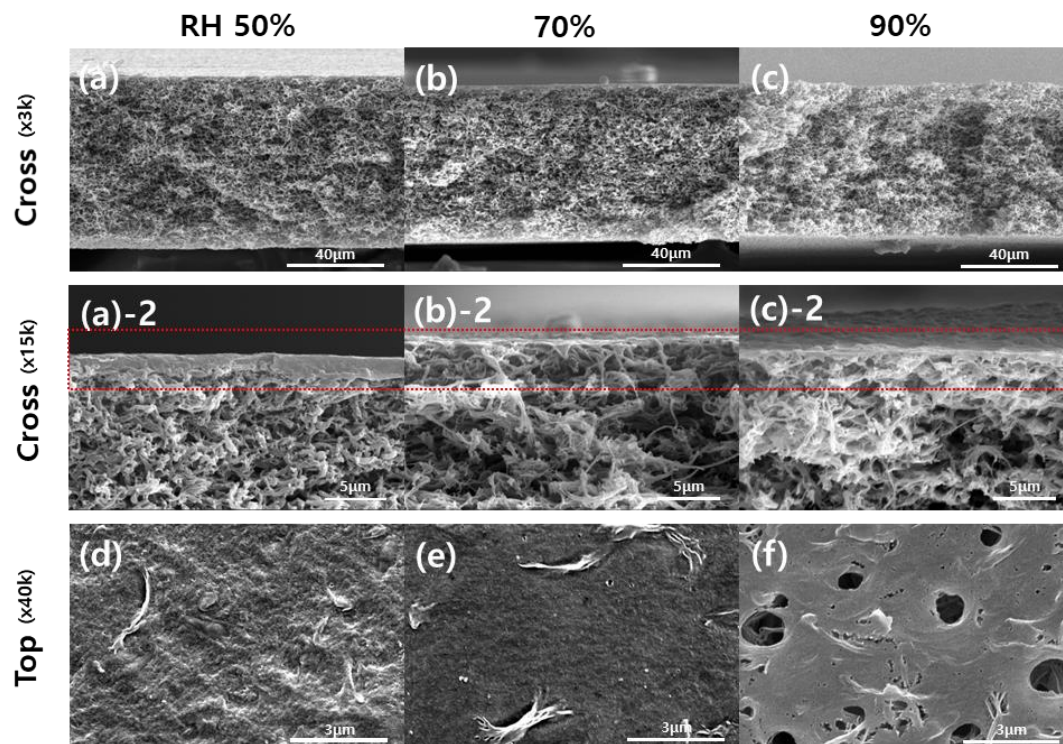


Figure S6. Effects of relative humidity on the active layer thickness and the surface morphologies. Chamber temperature: 30 $^{\circ}\text{C}$, vapor exposure time : 30 sec.

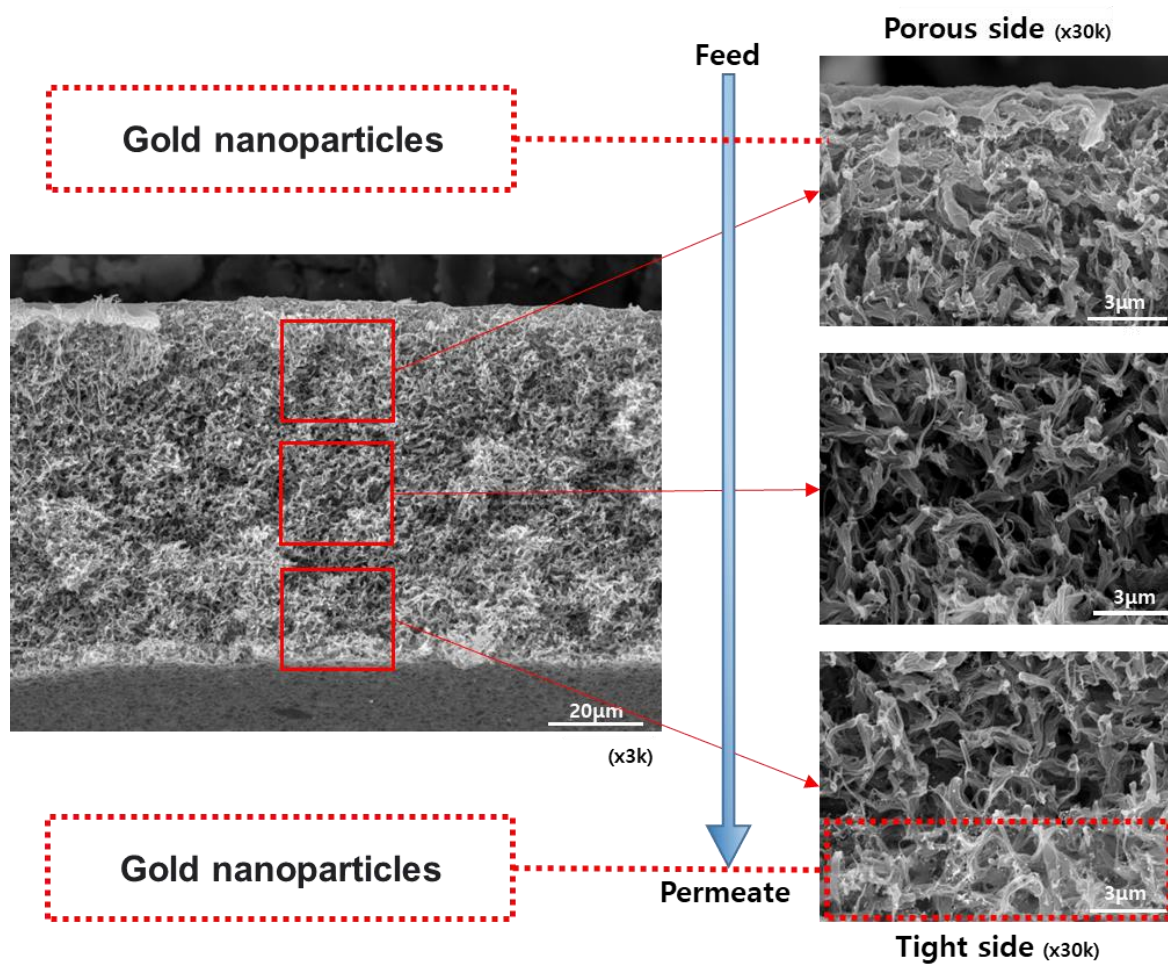


Figure S7. SEM images of the PTE-3 membrane after 20 nm gold nanoparticle filtration.