

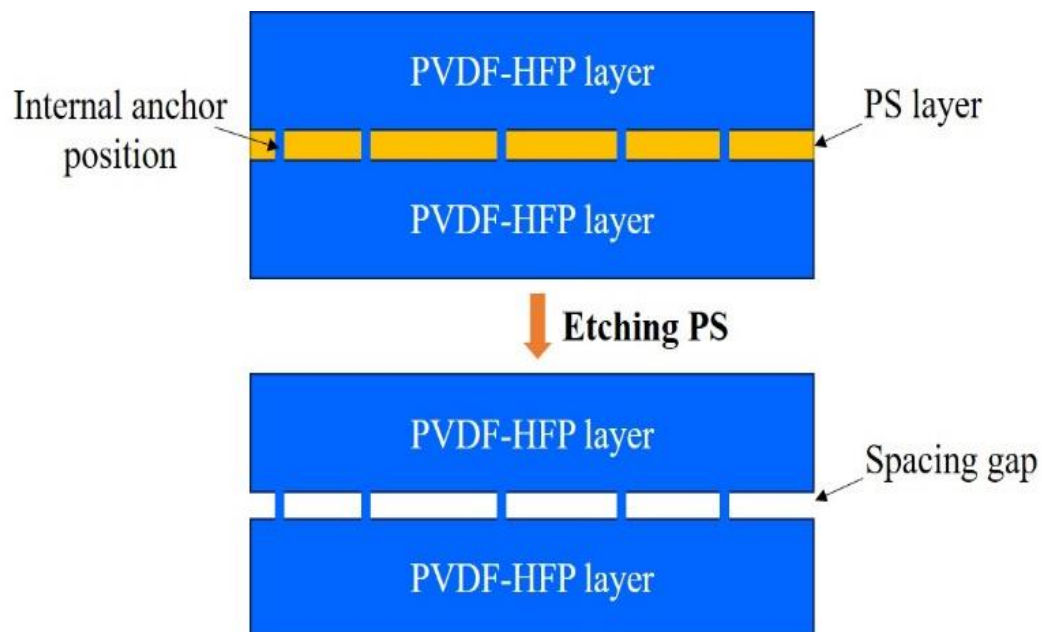
Supporting Information



Figure S1. Photograph of the E-flex dip coater used in this study



Figure S2. Photograph of the temperature and humidity controller.



Scheme S1. Effect of the PS layer thickness on the adhesion between PVDF-HFP layers.

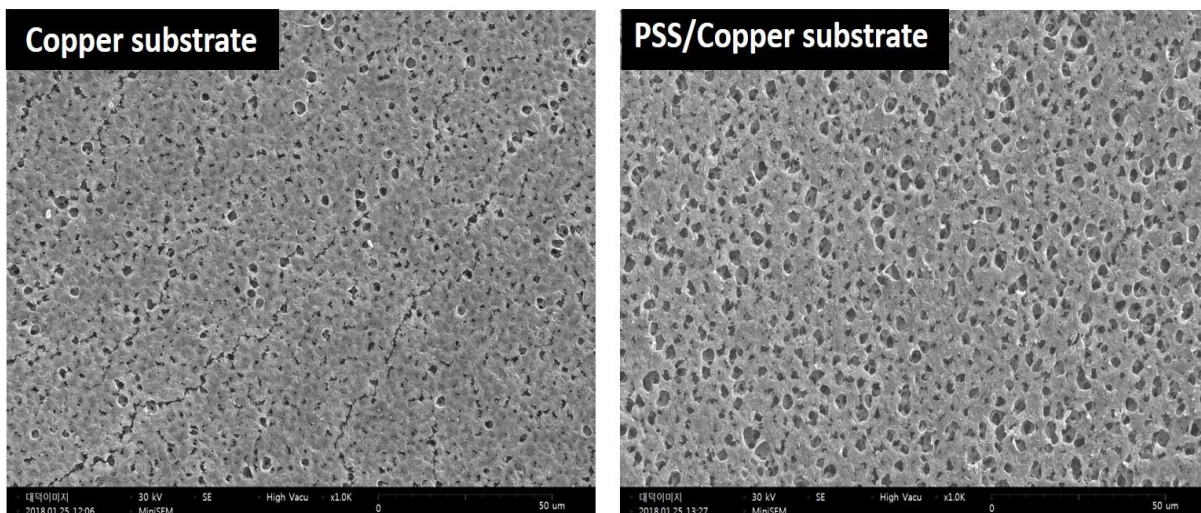


Figure S3. Surface morphology of the backside of the film (facing the substrate) using bare copper and PSS-coated copper substrates.

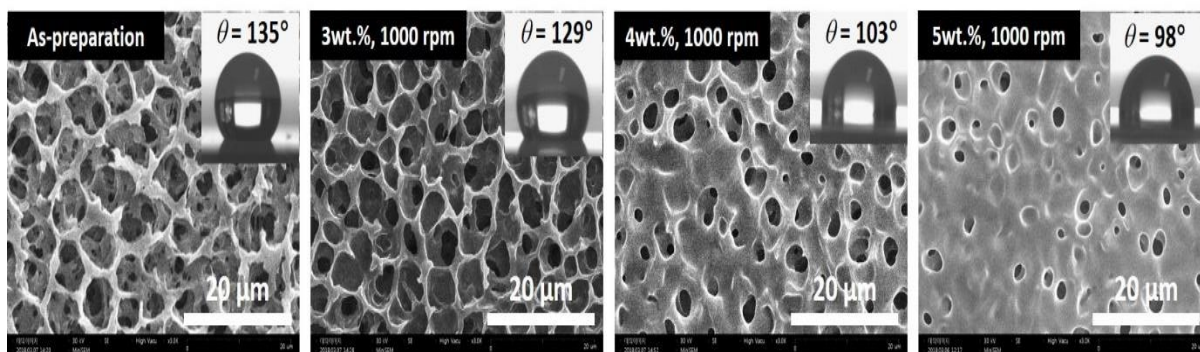


Figure S4. Surface morphology of the porous PVDF-HFP film after coating with a PS solution with different concentrations. The spin-coating was done at a rotational speed of 1000 rpm for 40 s.

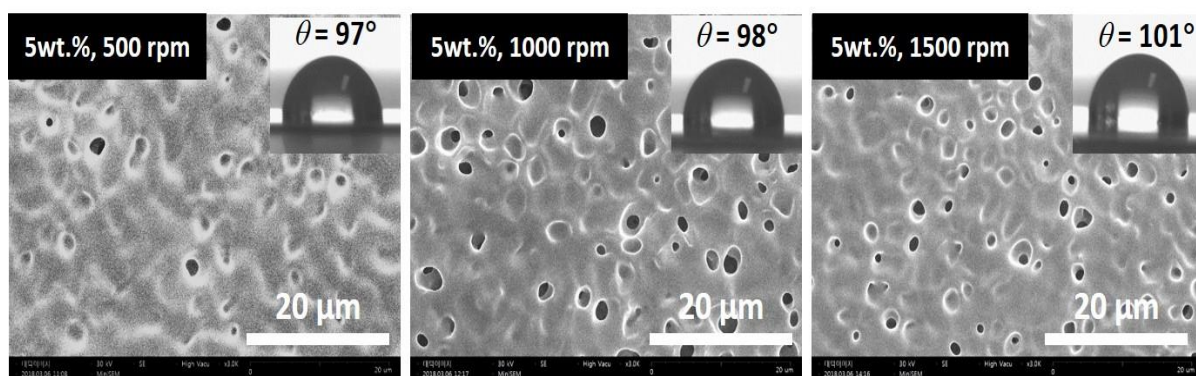


Figure S5. Surface morphology of the porous PVDF-HFP film after coating with a 5 wt.% PS solution at different rotational speeds.

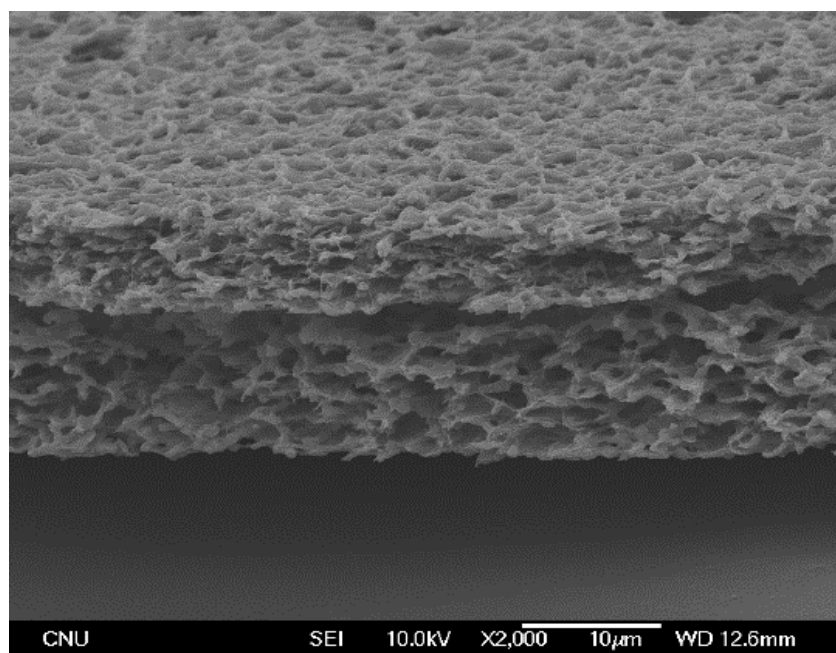


Figure S6. Cross-sectional morphology of the two-layer structured porous PVDF-HFP membrane prepared with a thicker PS coating layer.