

**Supplementary information for Hierarchically porous polystyrene  
membranes fabricated *via* CO<sub>2</sub>-expanded liquid selectively swelling and *in  
situ* hyper-cross-linking method**

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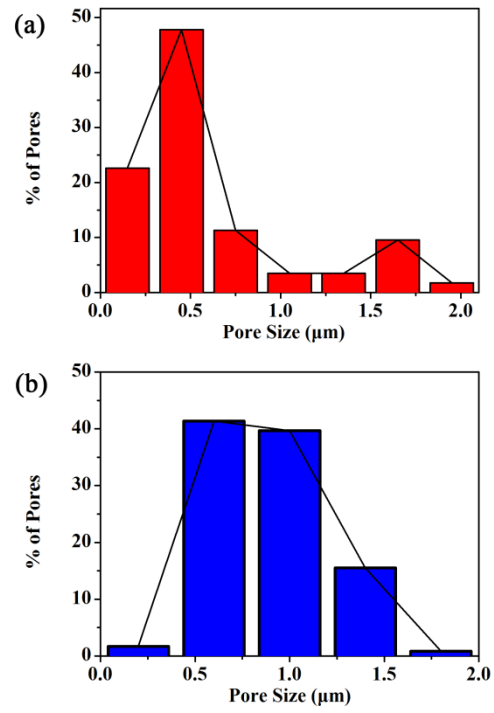


Fig S1 The histogram of pore sizes distribution after (a) CXL and (b) hyper-cross-linking processes calculated according to the SEM images.

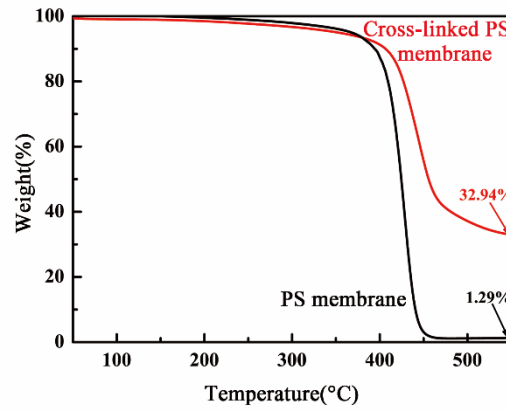


Fig S2 TGA curves of uncross-linked the PS membrane (black) and the hyper-cross-linked PS membrane (red).