

1 Supporting Information

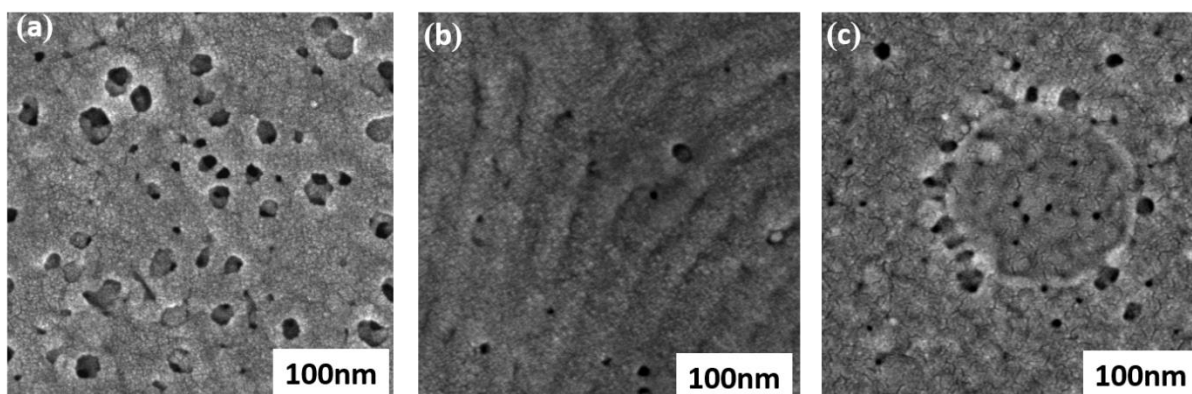
2 **Isoporous Membranes from Novel**
 3 **polystyrene-*b*-poly(4-vinylpyridine)-*b*-poly(solketal**
 4 **methacrylate) (PS-*b*-P4VP-*b*-PSMA) Triblock**
 5 **Terpolymers and their Post-modification**

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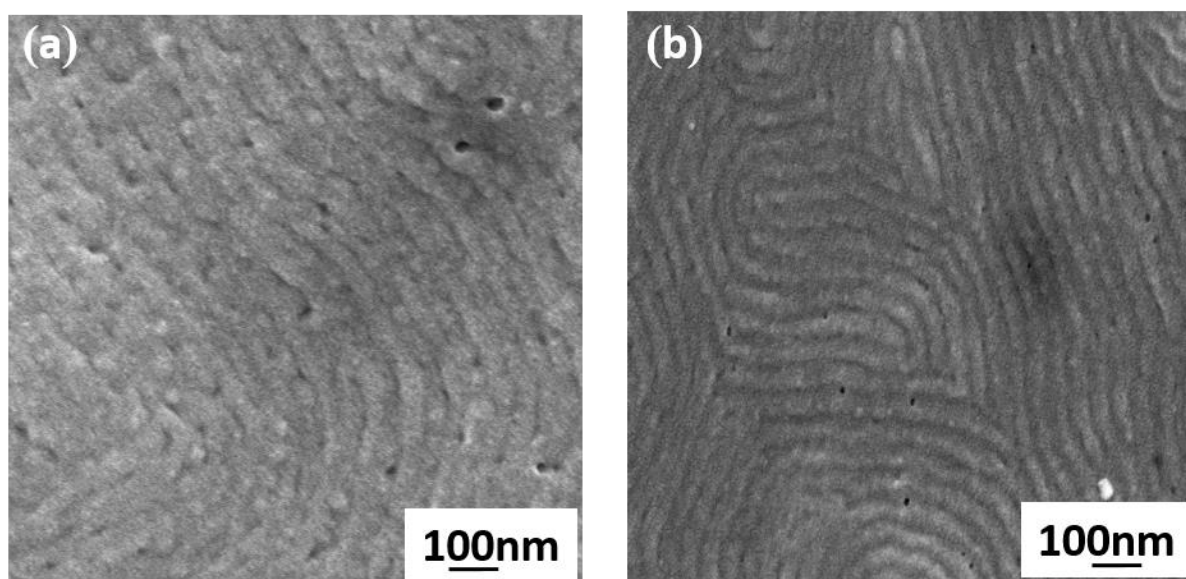
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13 **Figure 1.** SEM images of PS₇₁-*b*-P4VP₂₆-*b*-PSMA₃¹⁴⁵ membrane surfaces prepared from different
 14 solutions: 22 wt% copolymer in (a) 60/40 THF/DMF; (b) 50/50 THF/DMF; (c) 70/30 THF/DMF. The
 15 evaporation time before immersion into the precipitant was 10 seconds for the three different
 16 concentrations.

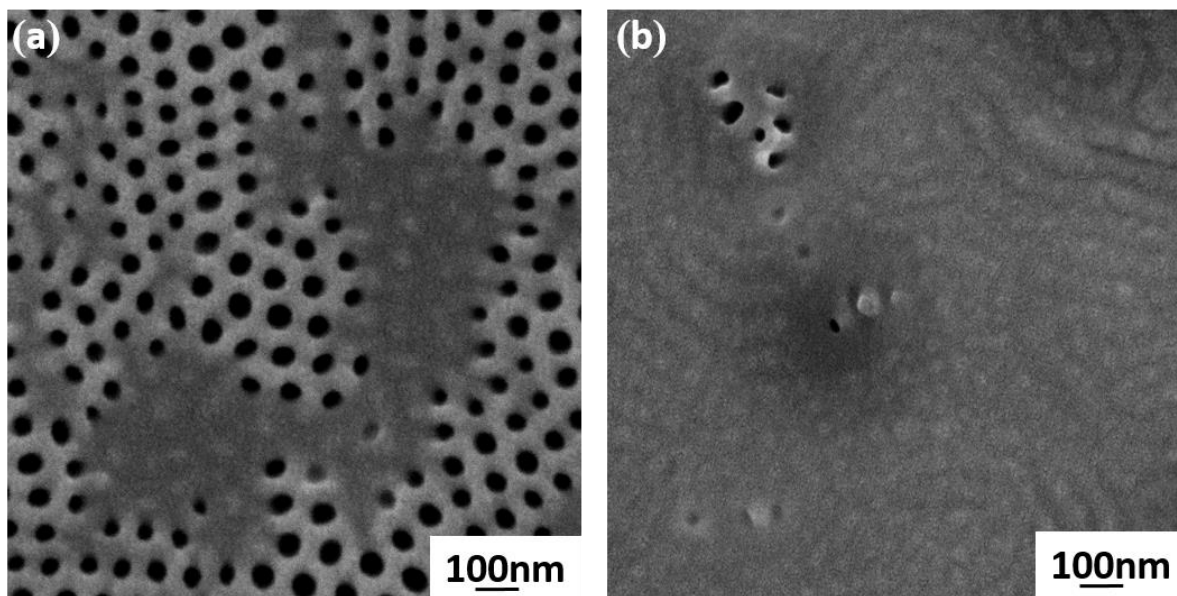


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19 **Figure 2.** SEM images of the surfaces of $PS_{71}\text{-}b\text{-}P_{4VP}_{26}\text{-}b\text{-}PSMA_{3145}$ membranes cast from a 22 wt%
20 copolymer solution in (a) THF/DMF/DOX 1/1/1 (b) THF/DMF/DOX 40/30/30. The evaporation time
21 before immersion into the precipitant was 10 seconds.

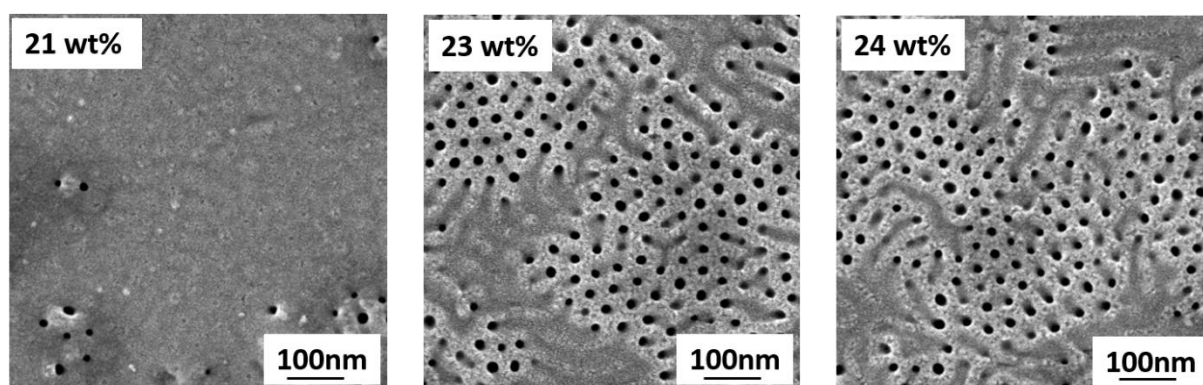
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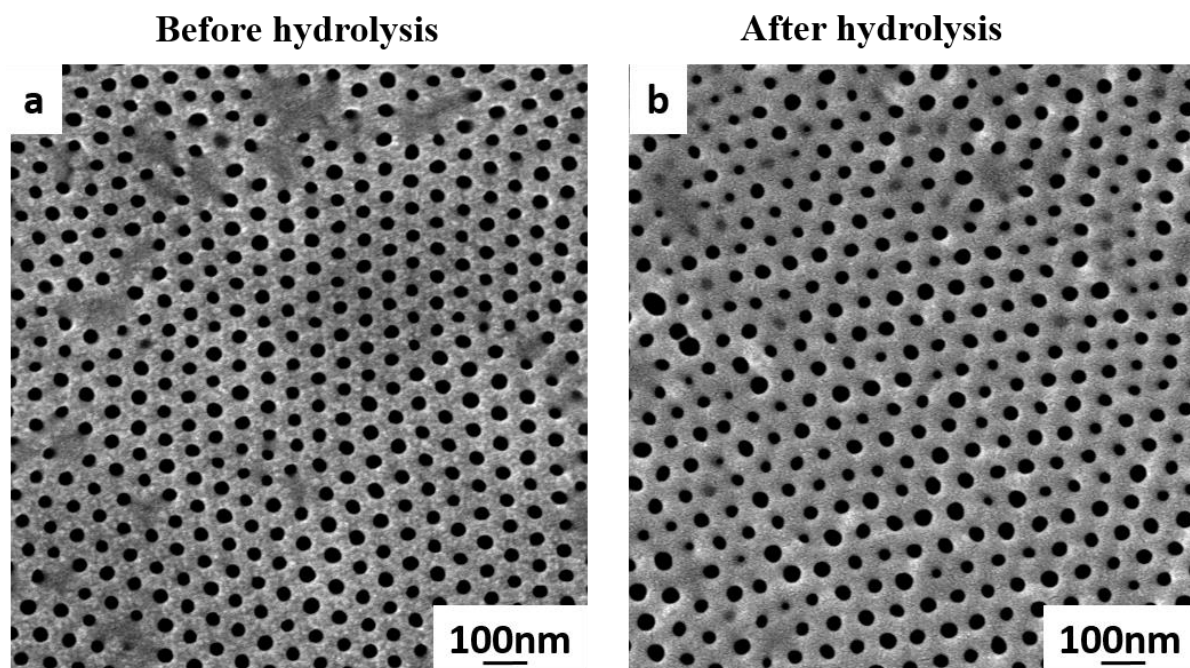
24 **Figure 3.** SEM images of the surfaces of $PS_{71}\text{-}b\text{-}P_{4VP}_{26}\text{-}b\text{-}PSMA_{3145}$ membranes cast from solutions
25 THF/DMF/Acetone: 50/30/20 wt%. (a) 20 seconds (b) 30 seconds evaporation time before immersion
26 into non-solvent bath.

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29 **Figure 4.** SEM images of the surfaces of $PS_{71}\text{-}b\text{-}P_{4VP}_{26}\text{-}b\text{-}PSMA_{3145}$ membranes cast from 21 wt%,
30 23wt%, 24wt% copolymer solutions in THF/DMF/Acetone: 50/30/20 wt%. The evaporation time
before immersion into the precipitant was 10 seconds.



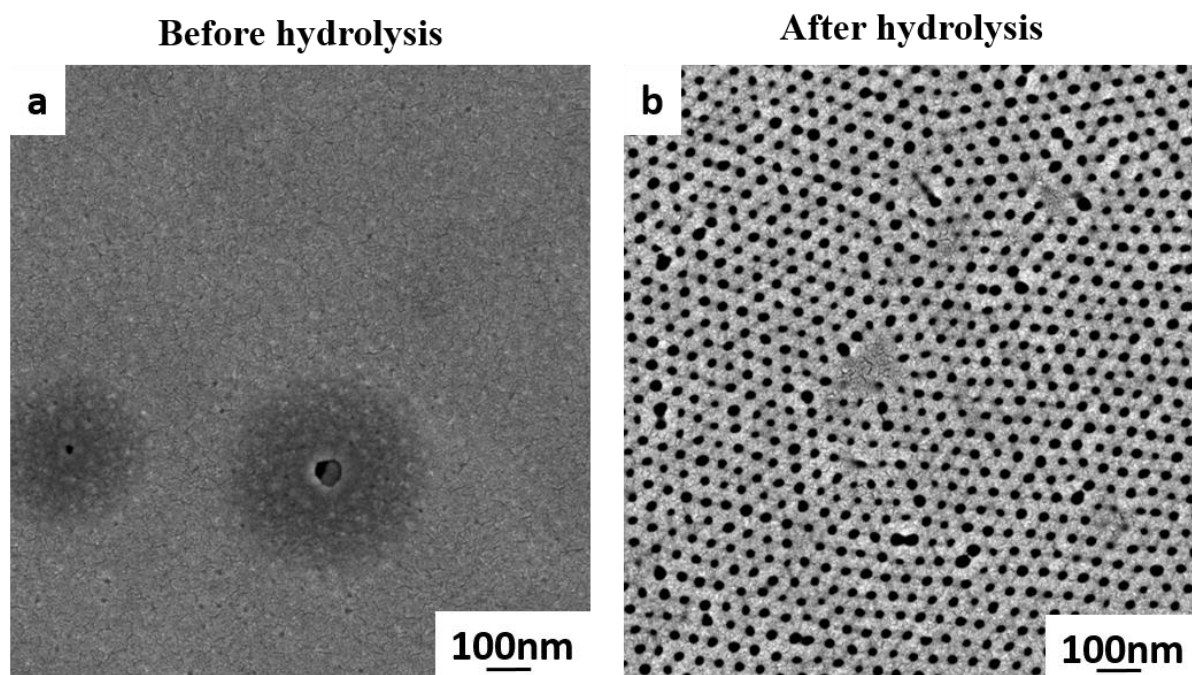
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Figure 5. SEM images of the surface of (a) pristine $PS_{70}\text{-}b\text{-}P4VP_{25}\text{-}b\text{-}PSMA_{5}^{143}$ membrane and (b) $PS_{70}\text{-}b\text{-}P4VP_{25}\text{-}b\text{-}PGMA_{5}^{143}$ membrane after acidic hydrolysis. The evaporation time before immersion into water bath was 10 seconds.



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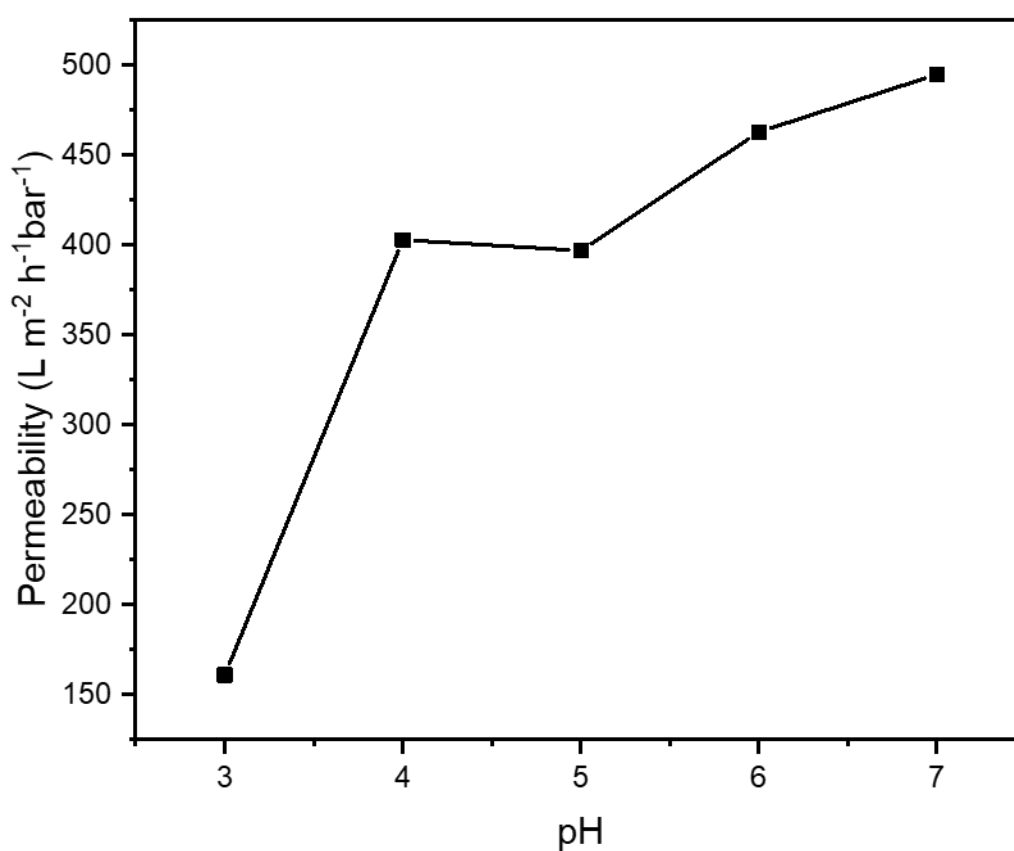
Figure 6. SEM images of (a) $PS_{71}\text{-}b\text{-}P4VP_{17}\text{-}b\text{-}PSMA_{12}^{91}$ membrane (b) $PS_{71}\text{-}b\text{-}P4VP_{17}\text{-}b\text{-}PGMA_{12}^{91}$ membrane obtained after acidic hydrolysis. The evaporation time before immersion into water bath was 10 seconds.

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Table 1. Comparison of dynamic contact angle values of $PS_{71}\text{-}b\text{-}P4VP_{26}\text{-}b\text{-}PSMA_{3}^{145}$ and $PS_{71}\text{-}b\text{-}P4VP_{26}\text{-}b\text{-}PGMA_{3}^{145}$ triblock terpolymer membranes.

PS ₇₁ - <i>b</i> -P4VP ₂₆ - <i>b</i> -PSMA ₃ ¹⁴⁵	PS ₇₁ - <i>b</i> -P4VP ₂₆ - <i>b</i> -PGMA ₃ ¹⁴⁵
(°)	(°)
63±1	51±1
61±0.5	47±3
56±2	38±2
49±1	37±3
45±1	34±3
43±0.46	27±3
39±3	22±1
34±2	17±2
30±1	13±1
25±4	9±1
16±5	



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Figure 7. Water permeabilities of PS₇₁-*b*-P4VP₂₆-*b*-PGMA₃¹⁴⁵ membrane measured at various pH, at pH > 4 high water permeability was observed, due to deswelling of the deprotonated P4VP blocks at larger pH, leading to their collapse on the pore walls.

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