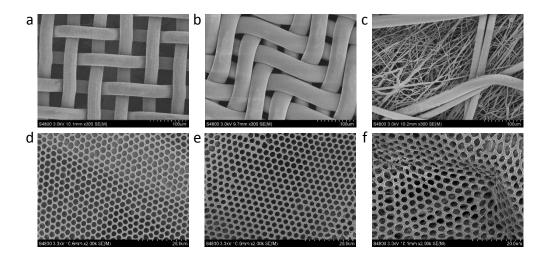
## Electronic Supplementary Information (ESI)

Surface Modification of Self-Assembled Isoporous Polymer Membranes for Pressure-Dependent High-Resolution Separation

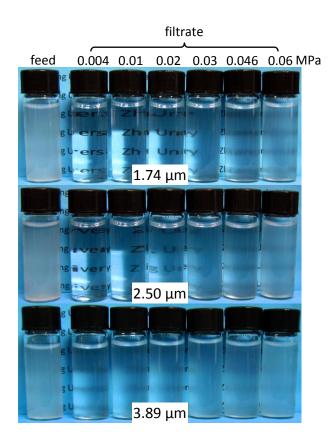
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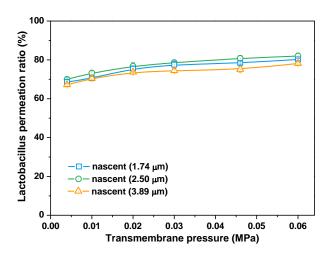
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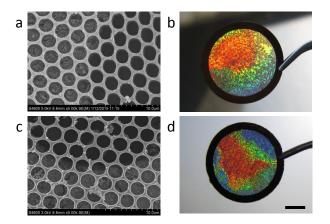
**Fig. S1** SEM images of various porous supports (a-c) and perforated composite membranes prepared by the transfer-free method on these supports (d-f). (a, d) Nylon fabrics (400 mesh); (b, e) stainless steel sieves (300 mesh); (c, f) nonwoven meshes.



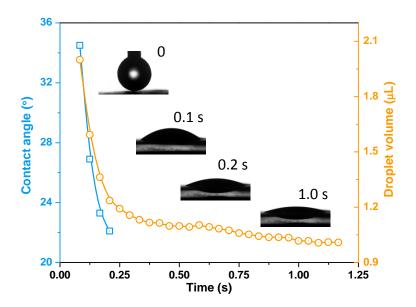
**Fig. S2** Digital photographs of the feed and filtrate yeast solutions through the composite membranes with different pore sizes under various trans-membrane pressures.



**Fig. S3** Lactobacillus cell permeation ratio through the composite membranes with different pore sizes under various trans-membrane pressures.



**Fig. S4** SEM and digital images of the composite membranes after PDA/PEI co-deposition (a,b) and PEG modification (c,d). Scale bar in (b) and (d): 3 mm.



**Fig. S5** (a) Dynamic contact angles of the PEG-modified composite membranes. The insets show optical images of the water permeation process.