Supporting information for

Hydrophobic Polyvinylidene Fluoride Fibrous Membranes with Simultaneously Water/windproof and Breathable Performance

Fangfang Yang [a,b,1], Yang Li [a,b,1] Xi Yu [b,c], Guangnan Wu [b,d], Jianyong Yu [b], Bin Ding [a,c,*]

[a] State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, College of Material Science and Engineering, Donghua University, Shanghai 201620, China

[b] Nanofibers Research Center, Modern Textile Institute, Donghua University, Shanghai 200051, China

[c] Key Laboratory of Textile Science & Technology, Ministry of Education, College of Textiles, Donghua University, Shanghai 201620, China

[d] College of Chemistry, Chemical Engineering and Biotechnology, Donghua University, Shanghai 200051, China

[*] Corresponding author: Dr. Bin Ding (E-mail: binding@dhu.edu.cn)

[1] These authors have contributed equally to this work.

Table 1 Detailed compositions and properties of the PVDF solutions with various DMAc/acetone ratio and NaCl concentrations.

PVDF concentration (wt%)	DMAc/acetone Ratio (w/w)	NaCl concentration (wt%)	Surface tension (mN/m)	Viscosity (cps)	Conductivity (μs/cm)
20	1/9	0	16.2 ± 0.2	442 ± 8	9.6 ± 0.1
20	3/7	0	24.4 ± 0.3	434 ± 12	10.9 ± 0.1
20	5/5	0	26.4 ± 0.1	424 ± 12	10.2 ± 0.1
20	7/3	0	28.8 ± 0.1	439 ± 17	10.8 ± 0.1
20	9/1	0	32.0 ± 0.3	436 ± 13	9.9 ± 0.1
20	7/3	0.003	28.2 ± 0.3	426 ± 11	22.2 ± 0.1
20	7/3	0.006	28.2 ± 0.2	437 ± 13	36.1 ± 0.1
20	7/3	0.009	28.6 ± 0.1	448 ± 11	48.1 ± 0.1

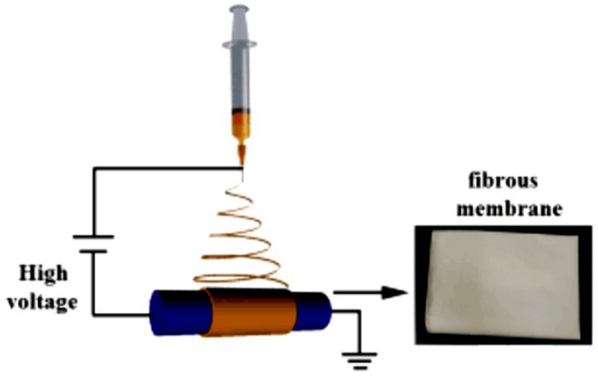

Fig. S1 Scheme illustration of the fabrication process of PVDF fibrous membranes via electrospinning.

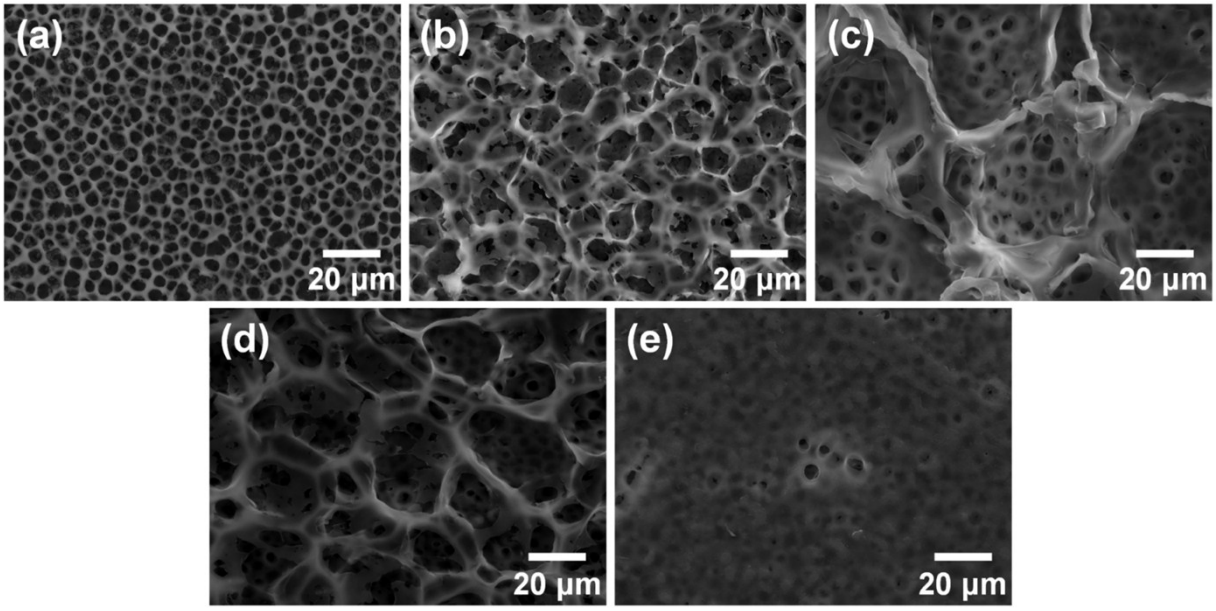

Fig. S2 SEM images of PVDF casting films obtained from solutions with various DMAc/acetone ration: (a) 1/9, (b) 3/7, (c) 5/5, (d), 7/3, and (e) 9/1, respectively.

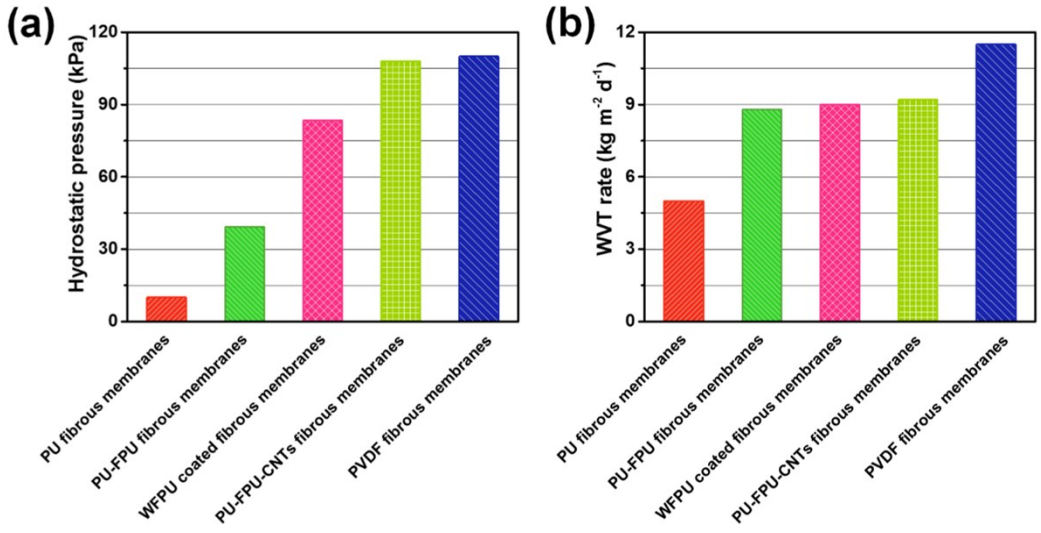

Fig. S3 Comparison of waterproof and breathable properties between the membranes in previous literature and the as-prepared PVDF fibrous membranes in this manuscript.