

Supporting information

Continuous production and properties of Multi-level nanofiber air filters by blowspinning

Keywords: blowspinning, mass production, nanofiber filters

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Figure S1. The digital image of the continuous production setup for blowspinning

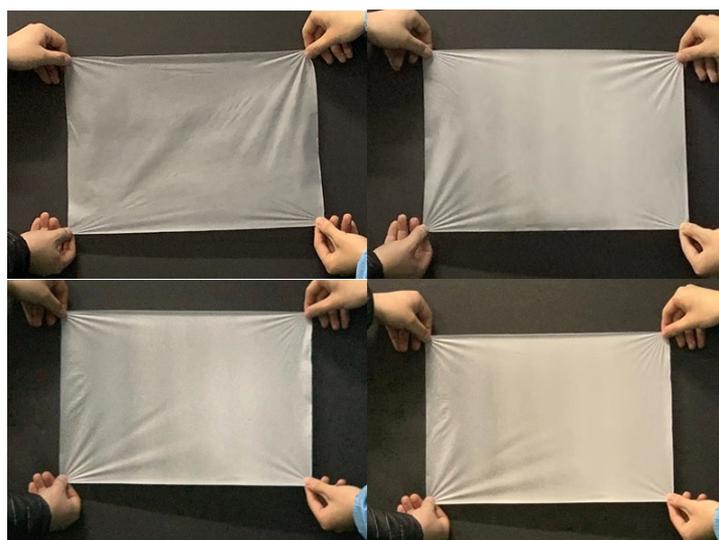


Figure S2. The digital image of the nanofiber membranes with different thickness. ($5\pm 0.7\mu\text{m}$, $11\pm 1.1\mu\text{m}$, $36\pm 3.4\mu\text{m}$ and $110\pm 5.4\mu\text{m}$, respectively)

Number	Flow rate (mL/min/nozzle)	Air pressure (Mpa)	Air temperature (°C)	Comment
#1	3	0.2	40	Optimal:uniform
#2	3	0.3	40	Droplet
#3	5	0.4	40	Fiber bundle and droplet

Table S1. Process parameters for continuous fiber formation.

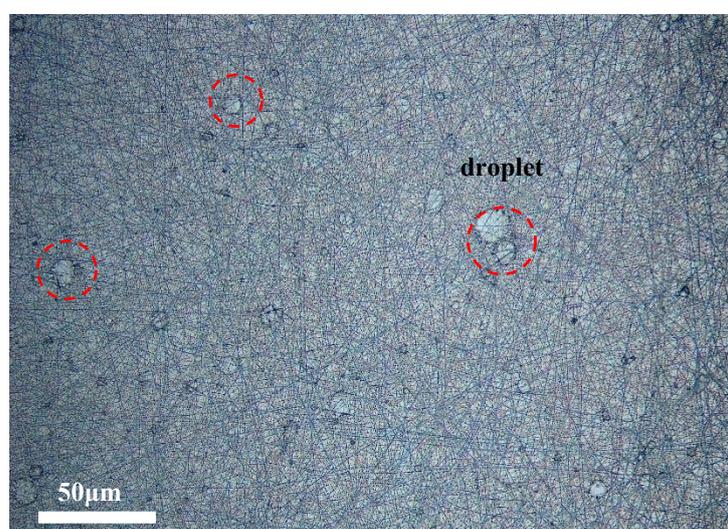


Figure S3. A optical microscope image of droplets(marked with red circle) in nanofibers.

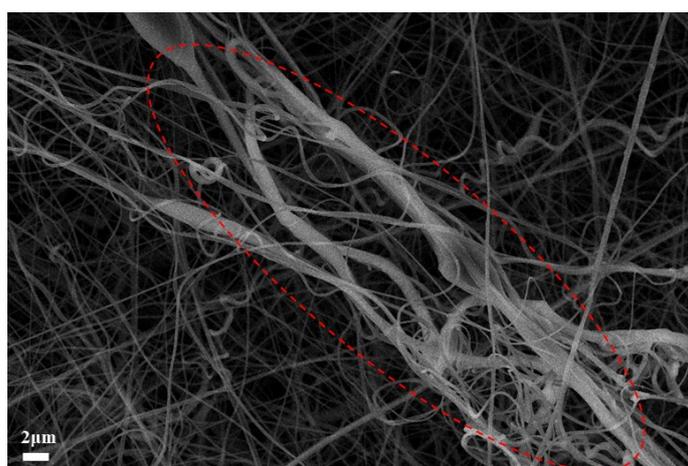


Figure S4. A SEM image of fiber bundle(marked with red circle).

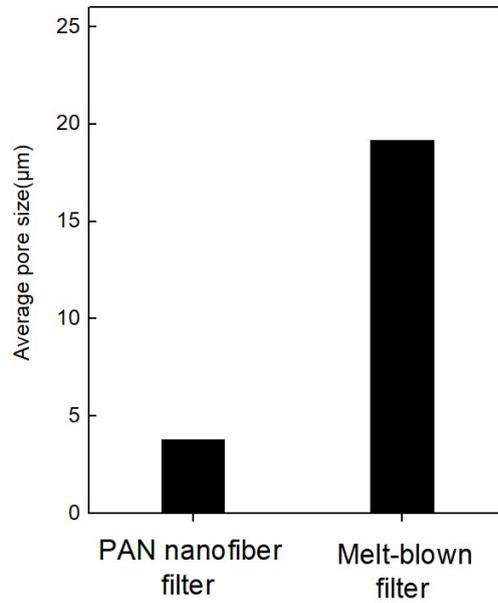


Figure S5. The average pore size of PAN nanofiber and melt-blown filter

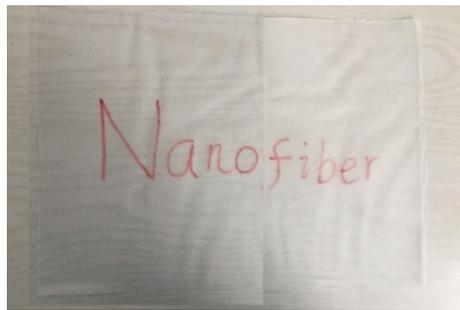


Figure S6. A digital image of 80 mesh polyester gauze before(left) and after(right) nanofibers coating.

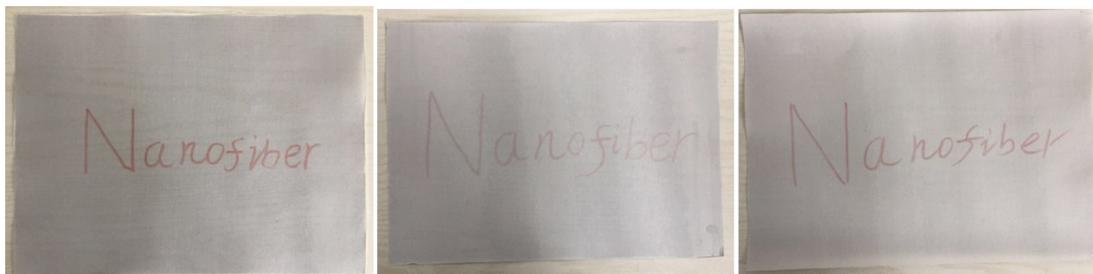


Figure S7. A digital image of metal mesh with different nanofibers coating of different thicknesses.



Figure S8. a) The test sample model. b) The procedure of bonding force test. The nanofiber composite sample was stick to hand board. The weight is gradually added to sample until the nanofibers are separated from the substrate.