Enhanced Air Filtration Performances by Coating Aramid Nanofibers on a Melt-blown Nonwoven

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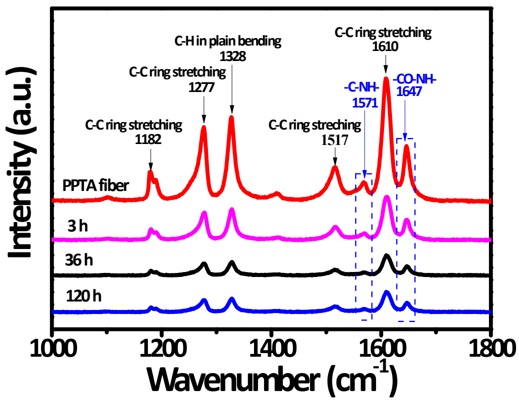

Fig. S1. Raman scattering patterns of ANF/DMSO.

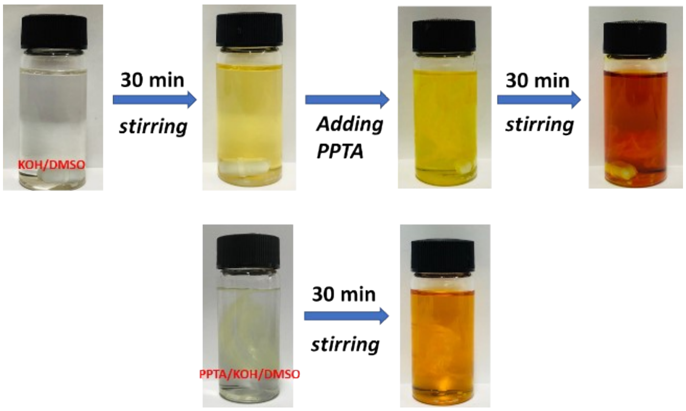

Fig. S2. Two different routes for preparing ANF/DMSO. Color changes presented in the photograph showed that stirring of KOH and DMSO for 30 minutes in advance can accelerate the deprotonation of PPTA in DMSO.

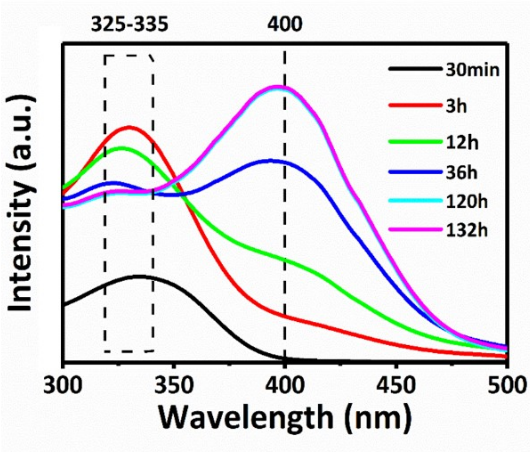

Fig. S3. UV/VIS spectra of ANF dispersion at various times.

Table S1. Functional groups corresponding to different wavenumbers.

Serial Number	Wavenumber(cm^{-1})	Assignment
1	3500-3100	N-H stretching vibrations
2	1680-1630	C=O stretching vibrations
3	1540	O=C-N deformation coupled vibration
4	1514	N-H stretching vibrations
5	1260	C=O stretching vibrations
6	1018	O=C-N deformation coupled vibration

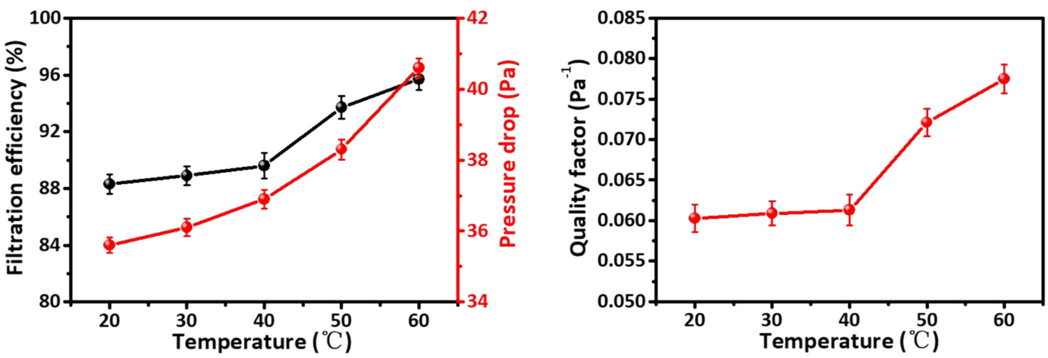

Fig. S4. Filtration performances of ANF/melt-blown nonwovens under different ANFs preparation temperatures.

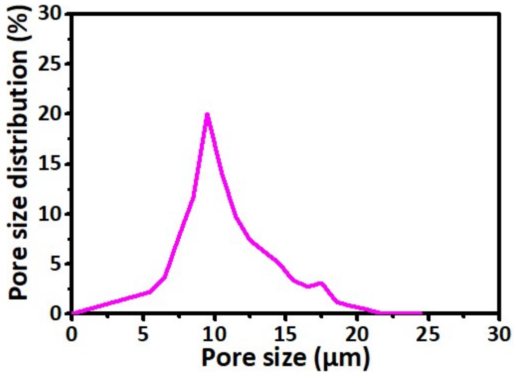

Fig. S5. Pore size distribution of pure melt-blown nonwoven.

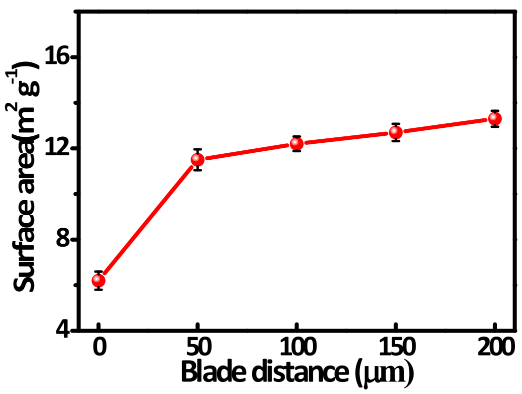

Fig. S6. Specific surface area of ANF/melt-blown nonwoven with different blade distances.

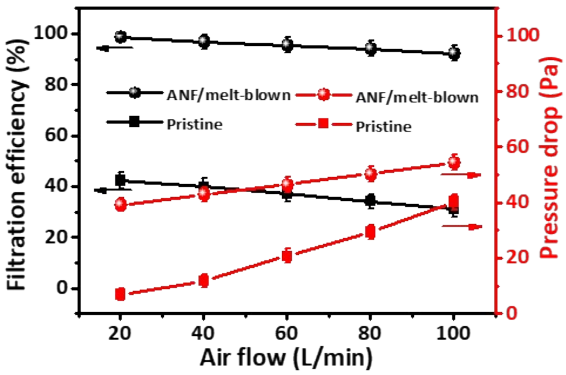

Fig. S7. Filtration performances of ANF/melt-blown and pristine melt-blown nonwoven composites under different air flows.