Supporting Information

Graphene Oxide-Modified Polyacrylonitrile Nanofibrous Membrane for Efficient Air Filtration

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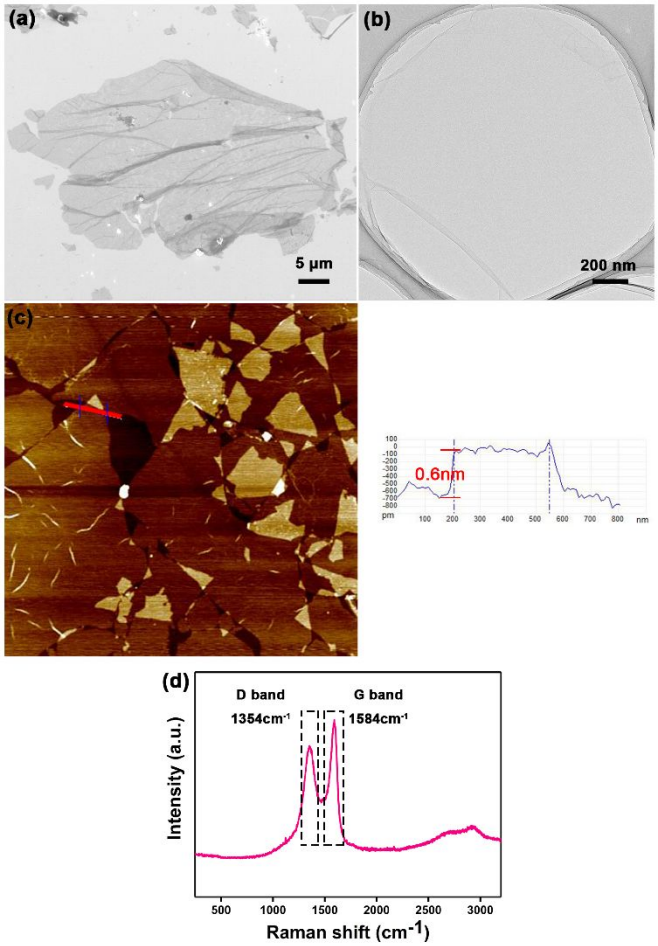

Figure S1 (a) SEM image, (b) TEM image, (c) AFM image of GO sheets and (d) Raman spectra.

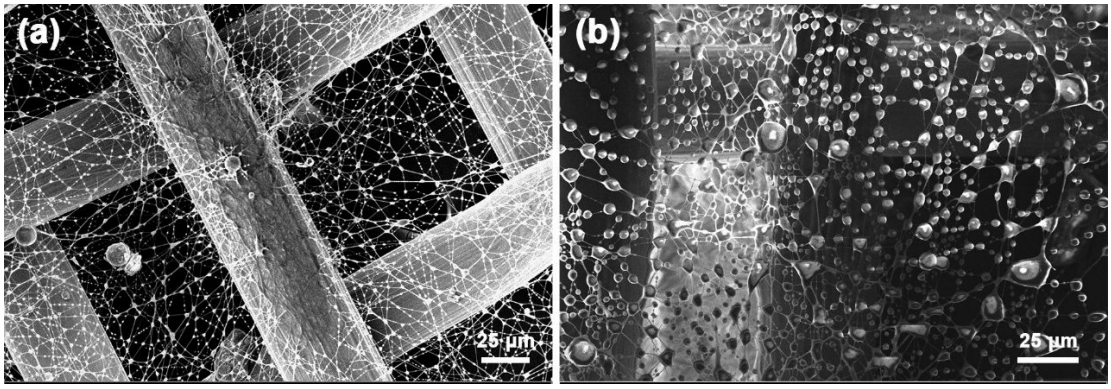

Figure S2 Overall SEM image after adsorption of (a) PAN nanofibers and (b) PAN/GO-3 nanofibers.

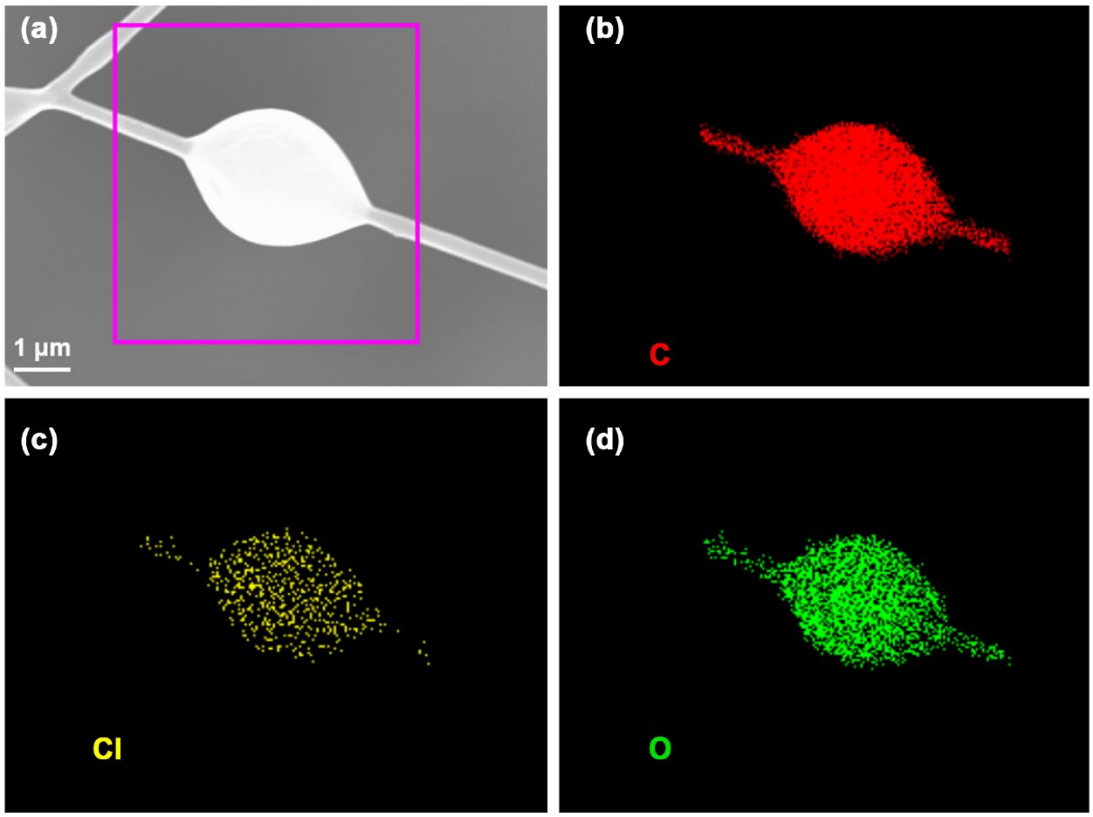

Figure S3 (a) SEM image of adsorbed $PM_{2.5}$ particle and elemental mapping of C (b), Cl (c) and O (d).

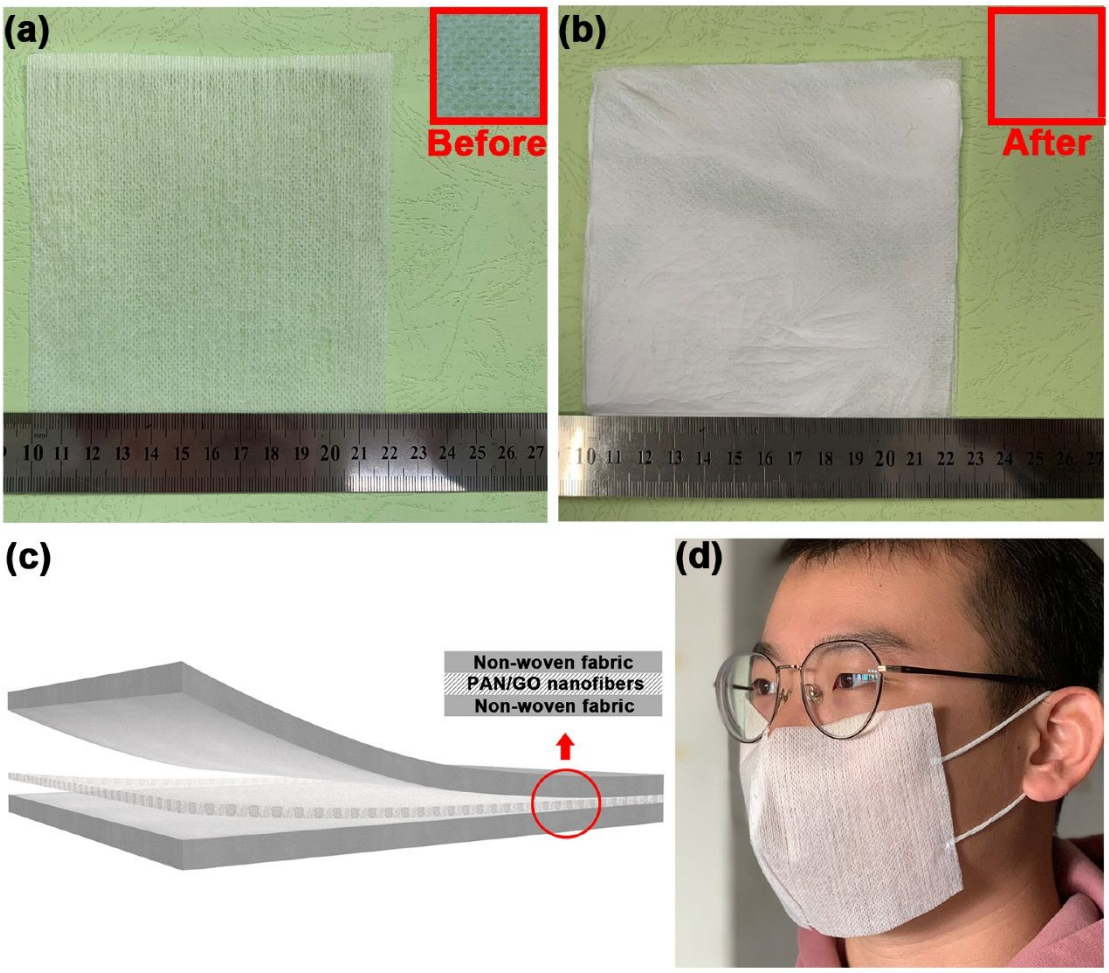

Figure S4 The non-woven fabrics (a) before and (b) after PAN/GO nanofibers were electrospun. Insets are details of the surfaces of non-woven fabrics. (c) A demonstration of sandwiched structure used in practical masks. (d) A photograph of practical mask wore by author.

Table S1 Adsorption time and removal efficiency of different nanofibers working under various environment

Sample	$PM_{2.5}$ concentration ($\mu g\ m^{-3}$)	Removal efficiency	Adsorption time(h)	Reference
PAN filter	300	95.0%	100	[S1]
M1	150	99.9%	10	[S2]
05GOPAN	248	99.9%	1	[S3]
PAN-8-M3	500	99.1%	25	[S4]
PI	300	97-99%	120	[S5]
PVDF/NIPs-12	500	99.9%	10	[S6]
APNF	300	90.2%	48	[S7]
ZIF-8@ Melamine foam-3rd	800	95.4%	12	[S8]
PAN-F10/S5	500	~99%	20	[S9]
PAN/GO-3	460	99.1%	100	Our work

References

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