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Supplementary information

Electromagnetic Interference Shielding Performance of Lightweight Aramid Nanofiber/Graphene Composite Aerogels

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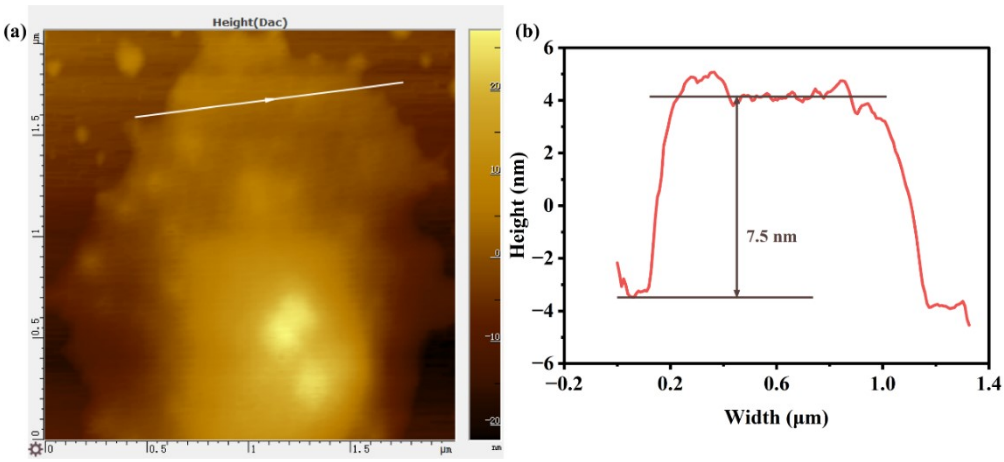

Fig. S1 (a) AFM image of GN dispersion, (b) height profile of GN.

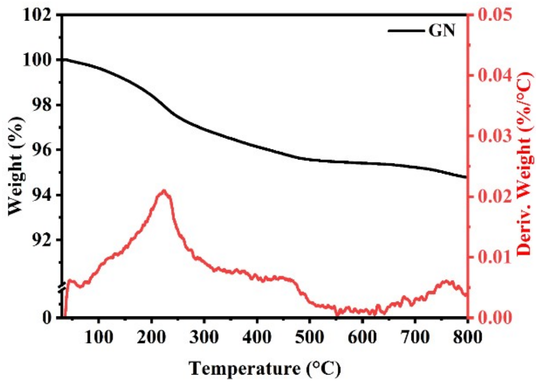

Fig. S2 TGA and thermogravimetry curve of GN.

Fig. S3 Digital photographs of ANF/GN composite aerogels

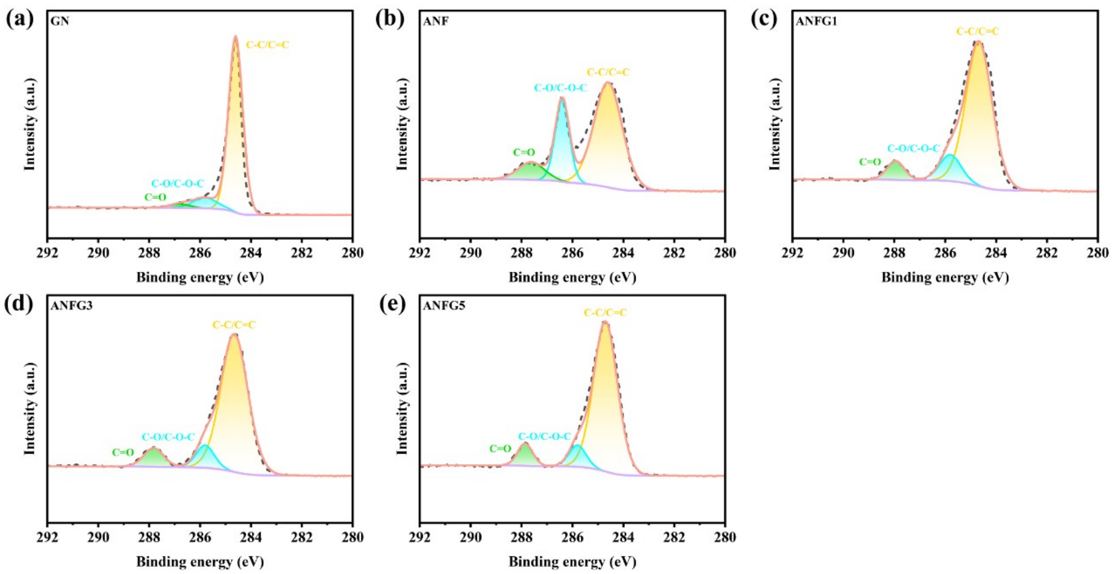

Fig. S4 Fitted XPS spectra of C1s of (a) GN, (b) ANF aerogel, (c) ANFG1 aerogel, (d) ANFG3 aerogel, and (e) ANFG5 aerogel.

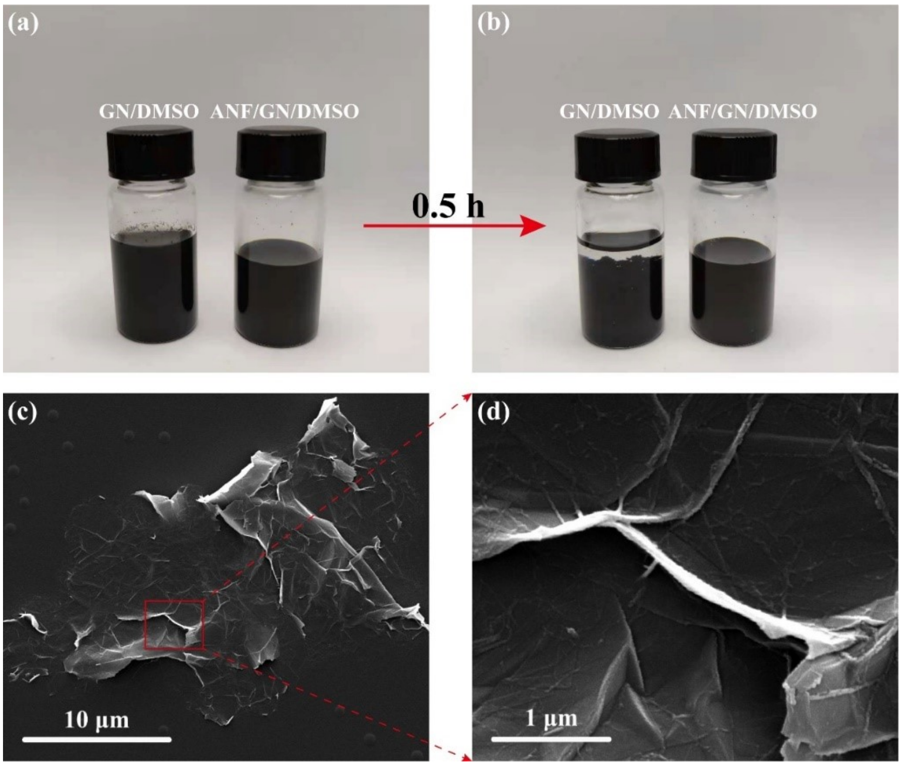

Fig. S5 (a) optical photograph of the GN/DMSO dispersion and ANF/GN (weight ratio=1:1) dispersion, (b) optical photograph of the GN/DMSO dispersion and ANF/GN (weight ratio=1:1) dispersion standing for 0.5 h, (c-d) SEM images of ANF/GN dispersion (weight ratio=1:1)

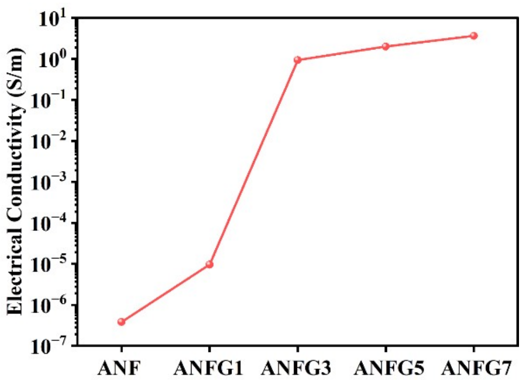

Fig. S6 Electrical conductivity of ANF/GN composite aerogels

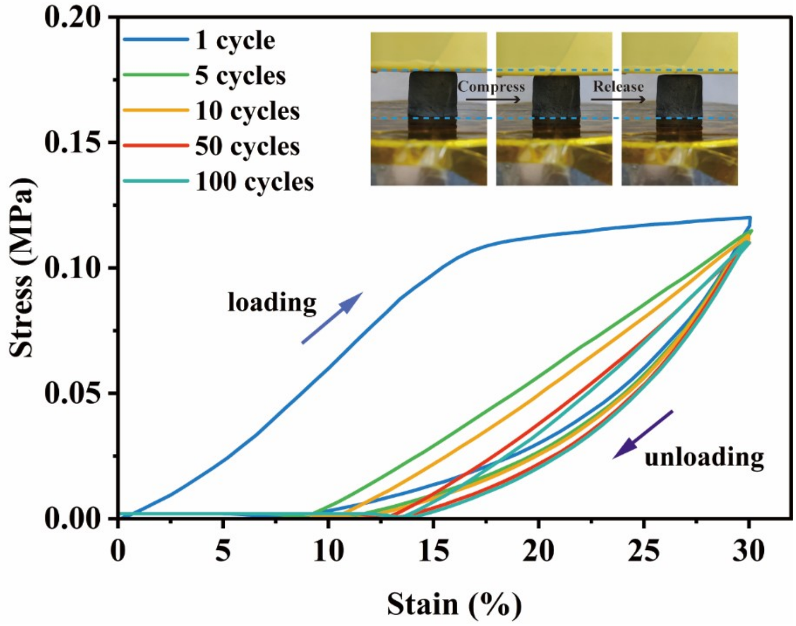

Fig. S7 Compressive curves of ANFG7 composite aerogel for 100 compression cycles.

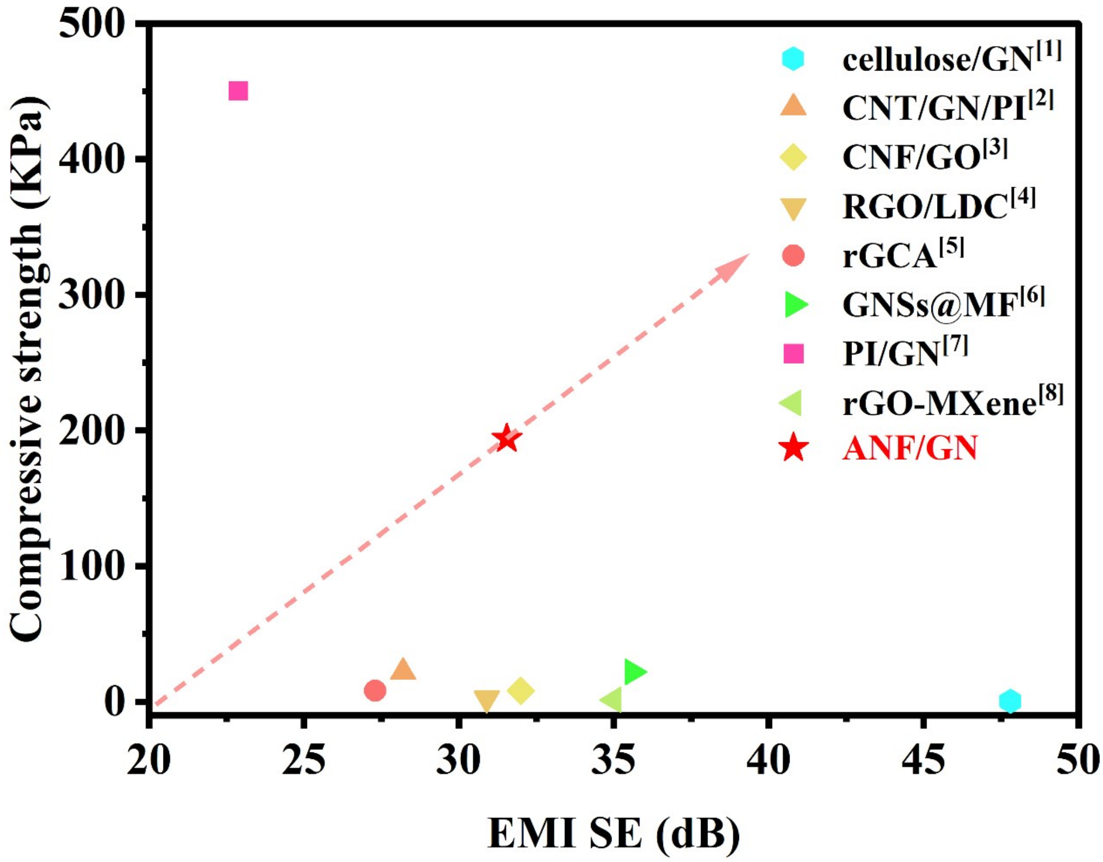

Fig. S8 Comparison of compressive strength of graphene composites versus EMI SE.[1-8]

Table S1 Contrast of EMI shielding performance of the polymer/Graphene Composites

Sample	Graphene content	Thickness (mm)	Density (g/cm^3)	EMI SE (dB)	SSE/t ($dB\cdot cm^2/g$)	Ref.
PMMA	1.8 vol%	2.4	0.79	19	100.21	9
PMMA	4.23 vol%	3.4	0.22	30	401.07	10
PI	16.0 wt%	0.8	0.28	16.5-20.8	737-929	11
PI	8.0 wt%	0.5	0.43	13.7-14.9	637-693	12
PI	13.0 wt%	2.5	0.076	28.8	1515.79	13
PEI	10 wt%	2.3	0.3	20	289.86	14
PS	30 wt%	2.5	0.45	29.3	260.44	15
PU	6.5 wt%	1.8	1.08	21.8	112.14	16
PU	2.01 vol%	2.0	0.21	35.6	847.62	6
PU	1 wt%	2.5	0.092	20	869.57	17
epoxy	0.33 wt%	4.0	0.004	35	21875	18
ANF	41.2 wt%	2.0	0.041	29.8-31.6	3612.9-3880.8	This work

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