

Supplementary Information

Facile approach for robust graphene/silver nanowires aerogel with high-performance electromagnetic interference shielding

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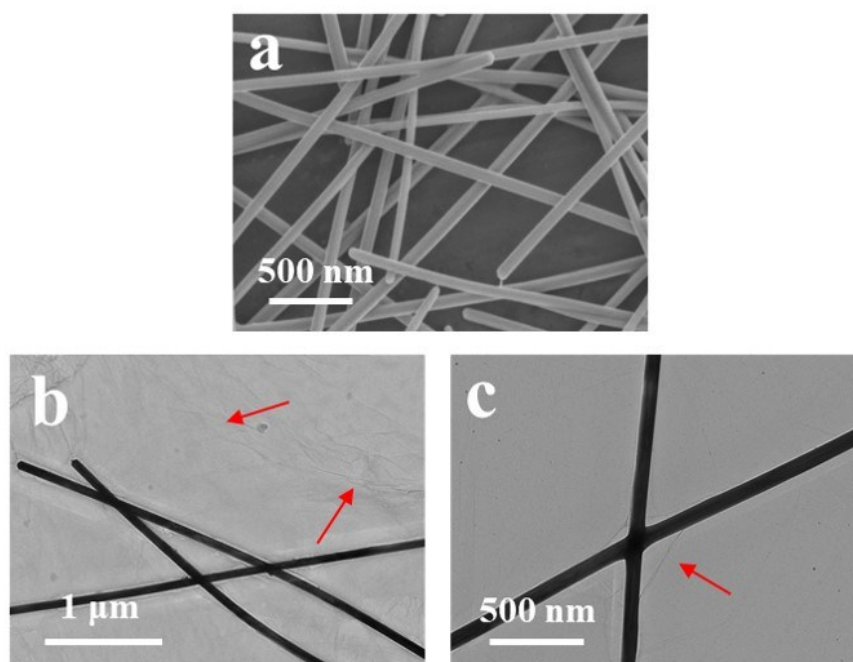


Fig. S1 (a) Typical SEM images of AgNWs and (b), (c) TEM images of GO/AgNWs composite.

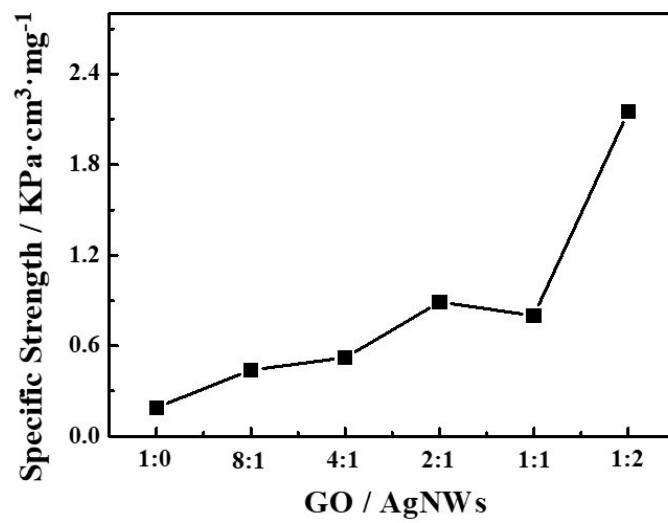


Fig. S2 The specific strengths of RGO/AgNWs aerogels with different mass ratios.

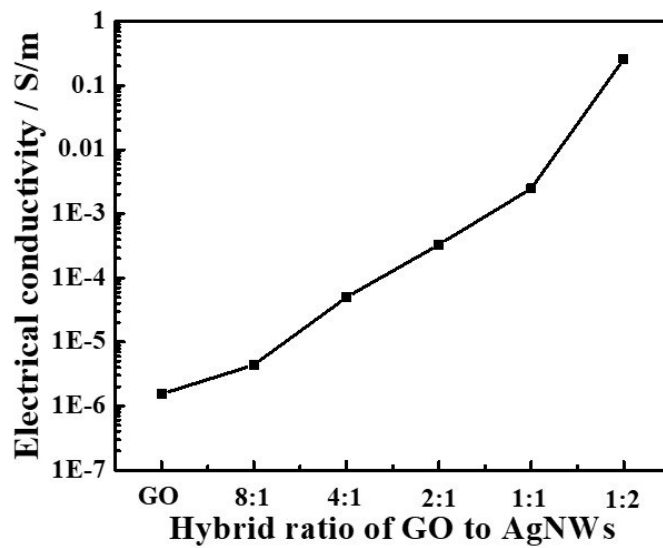


Fig. S3 The electrical conductivity of RGO/AgNWs aerogel with different mass ratios.

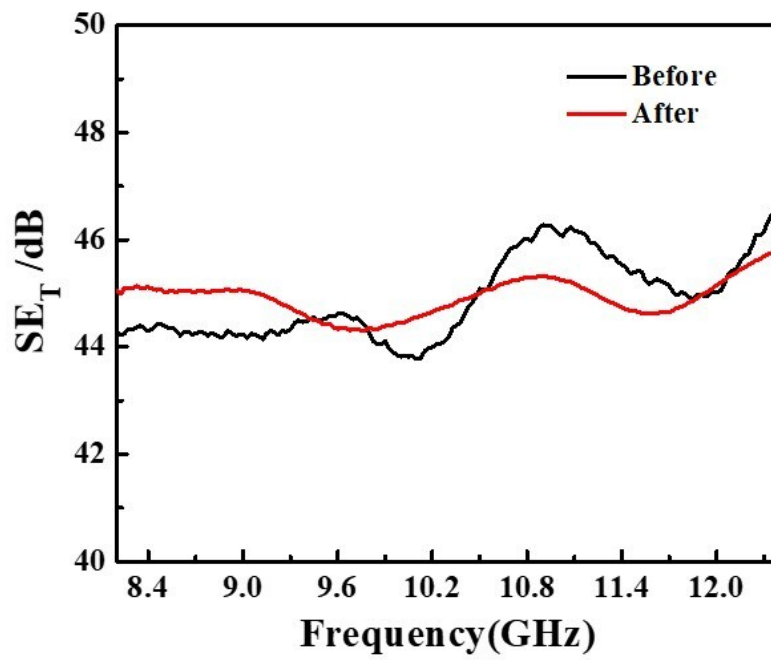


Fig. S4 The EMI SE of hybrid aerogels (1:2) after six months in the frequency range from 8.2 to 12.4 GHz.

Table S1 EMI shielding performance of several typical materials.

Features	Matrices	Fillers	Density (g/m ³)	EMI SE (dB)	Specific EMI SE (dB·cm ³ ·g ⁻¹)	Reference
Energy-consuming	GO (2000°C)			19.1		1
	CNT (CVD)	Graphene	0.0089	47.5	5337	2
	Graphene (CVD)	PEDOT/PSS	0.029	91.9	3124	3
	Graphene (CVD)	CNT	0.09	75	833	4
	PANI-NGF	MWCNTs		98		5
	GO (HI, 3000°C)		0.06	135	2250	6
	GO, resorcinol, formaldehyde		0.075	20	267	7
	porous carbon	Fe		40		8
Toxic	GO, CNF (HI)			26.2		9
	GO (Hydrazine)		0.06	25.2	420	10
	GO (HI)	Sodium alginate		25.7		11
	GO (Hydrazine)		0.0055	27.6	5018	12
	GO (Hydrazine)	Polydopamine	0.05	26.5	530	13
Eco-friendly & Energy-saving	Carbon Texture	Graphene	0.07	36	514	14
	TPU	Fe ₃ O ₄ , MWCNTs		32		15
	PS	Graphene	0.45	29	64.4	16
	PLA	CNT	0.1	22.7	216	17
	biomass-derived SrGO			38.6		18
	PEI foam	Graphene	0.3	11	44.1	19
	PMMA foam	Graphene	0.79	20	25	20
	Cellulose filter paper	Carbon nanofiber		24.6		21
	Cellulose	CNTs	0.095	20.8	219	22
	PLA foam	Graphite	0.7	45	64	23
	PS foam	mGr	0.24	22	92	24
	Carbon	Cenosphere	0.32	48.6	152	25
		Graphene/AgNWs(4:1)		0.0075	25.4	3401
	Graphene/AgNWs(1:2)		0.019	45.2	2372	This work

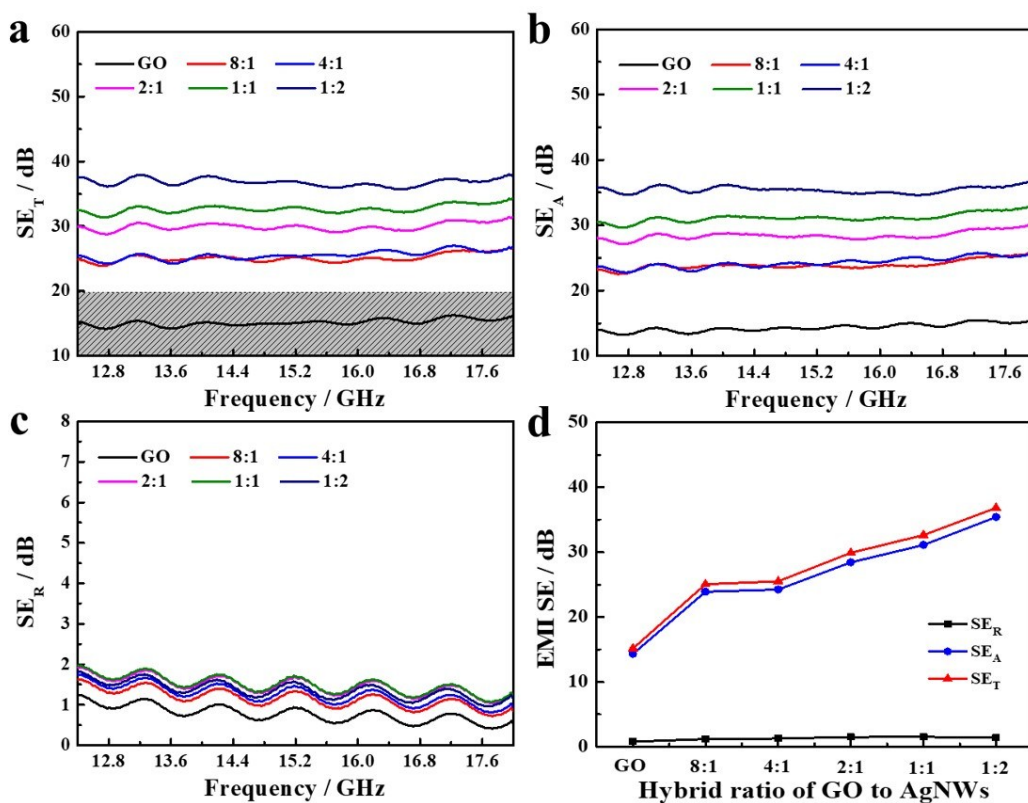


Fig. S5 The comparison of EMI shielding performances of RGO/AgNWs aerogel with different mass ratios in the frequency range from 12.4 to 18 GHz.

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