

## Supplementary Information

### Ultrathin, Flexible and Sandwich-Structured PHBV/Silver Nanowire Films for High-Efficiency Electromagnetic Interference Shielding

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Table S1. EMI shielding performance of various shielding materials

Materials	Matrix	Density (g/cm <sup>3</sup> )	Thickness (mm)	EMI SE (dB)	SSE (dB/cm)	SSE/t (dB* cm <sup>2</sup> /g)	Ref.
Graphene	PMMA	1.19	3.4	30	74.1	88.2	1
	-	1.07	0.05	60	11214.9	12000	2
	-	0.41	0.12	70	14227.6	5833	3
	-	0.06	0.3	25	13888.8	833.3	4
	PEDOT:PSS	0.022	1.5	65	19696.9	433.3	5
rGO	epoxy	1.07	0.1	38	3551.4	3800	6
	PS	0.26	2.5	45	692.3	180	7
	PDMS	0.06	1	30	5000	300	8
	PEI	0.29	2.3	10	149.9	43.4	9
	PMMA	0.79	4	19	60.1	47.5	10
CNT	-	0.02	2.4	22	4583.3	91.6	11
	WPU	0.04	1	21	5250	210	12
	PS	0.56	1.2	18.5	275.2	154.1	13
	-	0.6	0.26	56	3589.7	2153.8	14
	Cellulose	1.7	0.15	35	1372.5	2333.3	15
MXene	CNF	2.09	0.047	26	2646.8	5531.9	16
	CNF	1.26	0.038	37.7	7873.8	9921.0	17
	PVA	0.011	5	28	5090.9	56	18
	CNF	1.63	0.035	40	7011.3	11428.5	19
	PS	1.08	2	62	287.0	310	20
AgNW	PI	0.029	5	35	2413.7	70	21
	Cellulose	0.53	0.16	48.6	5731.1	3037.5	22
AgNW	PHBV	1.254	0.016	14.0	8750	6999.5	This work
	PHBV	1.257	0.016	20.1	12562.5	10031.8	
	PHBV	1.26	0.017	32.2	18941.18	15036.2	
	PHBV	1.28	0.016	41.1	25687.5	19678.4	
	PHBV	1.31	0.018	45.9	25500	19465.4	

Table S2. EMI shielding performance of various shielding materials at different contents

Materials	Matrix	Filler [wt %]	EMI SE (dB)	SSE/t (dB* cm <sup>2</sup> /g)	Ref.
Graphene	PMMA	5	19	100	10
	PS	30	29	257	23
	PI	16	20.8	929	24
	PDMS	10	11	42	25
	PI	8	14.9	693	26
	PI	13	28.8	1518	27
rGO	PEI	10	22	191	9
	PS	30	29	257	23
	PI	16	21	11712	24
	PS	7	45	692	7
	PEDOT	25	70	841	28
CNT	WPU	76.2	21	5431	12
	PS	7	18.5	275	13
	PC	20	39	164	29
	ABS	15	50	432.7	30
	PS	20	30	285	31
MXene	-	100	92	25863	32
	PVA	7.5	26.9	6919	33
	PVA	13.9	37.1	8833	33
	PVA	19.5	44.4	9343	33
	ANF	10	35.5	7595	34
	ANF	40	57.3	9317	34
	MMT	90	67	10156	35
	MMT	95	64.5	9482	35
AgNW	PI	4.5	30	2416	21
AgNW	PHBV	0.33	14.0	6999.5	This work
	PHBV	0.67	20.1	10031.8	
	PHBV	1.33	32.2	15036.2	
	PHBV	2.67	41.1	19678.4	
	PHBV	5.33	45.9	19465.4	

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