Electronic Supplementary Information (ESI)

Synthesis of hollow $Cu_{1.8}S$ nano-cubes for electromagnetic interference shielding

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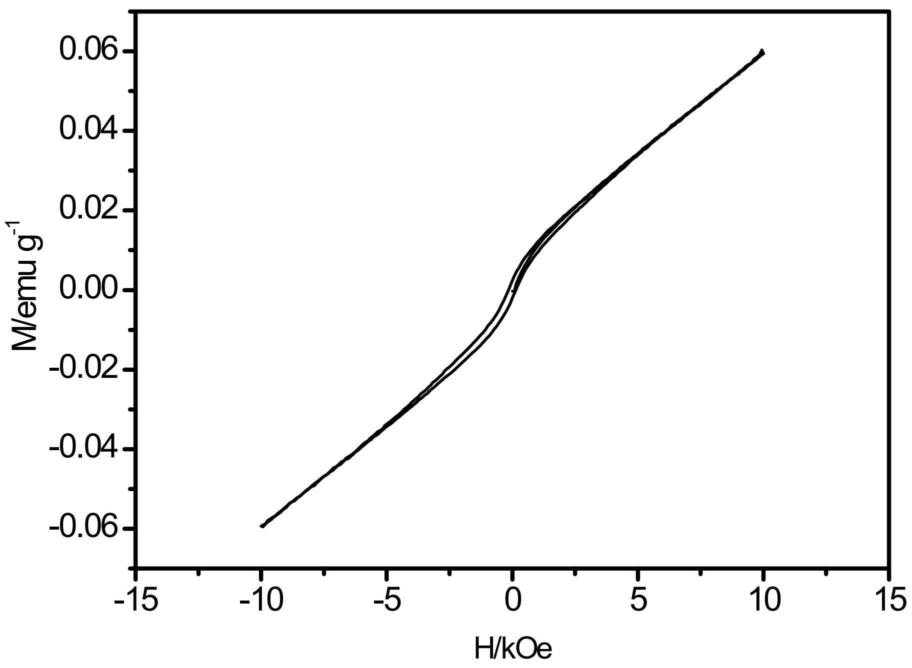

Fig. S1 The magnetic hysteresis loops of hollow $Cu_{1.8}S$ nano-cubes.

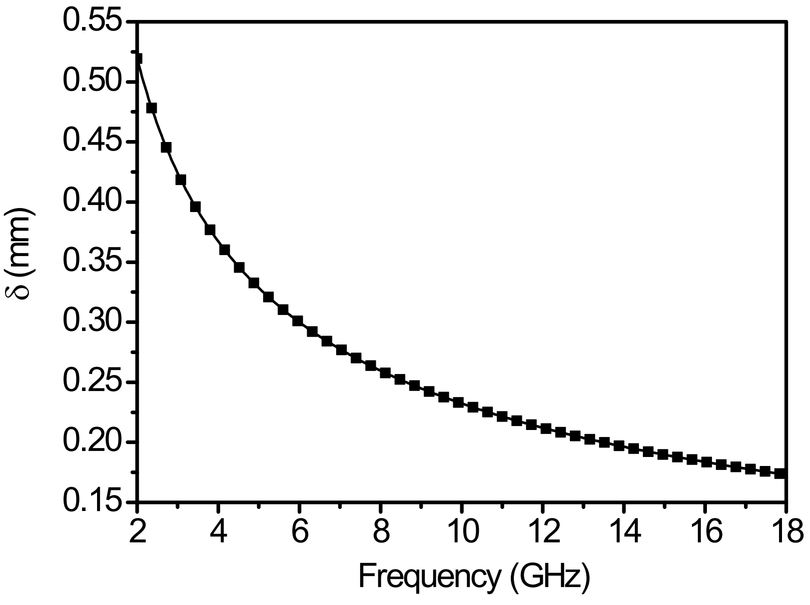

Fig. S2 *δ* of an ideal film with 100 wt% of hollow $Cu_{1.8}S$ nano-cubes.

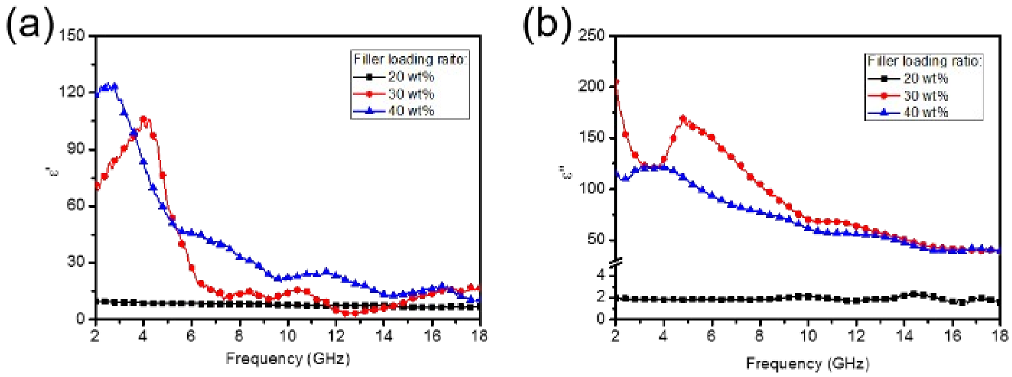

Fig. S3 The real part (a) and imaginary part (b) of ε_r, the filler loading ratios of hollow $Cu_{1.8}S$ nano-cubes in wax are 20, 30 and 40 wt%.

Table S1. EMI SE of Typical Materials Reported in Recent Literatures. (PMMA: polymethylmethacrylate; WPU: water-borne polyurethane; PEI: polyetherimide; PVDF: poly(vinylidenefluoride); PLLA: poly (*L*-lactic acid);PR: Phenolic resin)

Fillers	Matrix	Loading raito	Test frequency range (GHz)	Best EMI SE (dB)	Thickness (mm)	Ref.
Porous carbon	Wax	20 wt. %	2-18	50	2.0	1
RGO	PMMA	1.8 vol. %	8-12	<20	4.0	2
RGO	PMMA	4.2 vol. %	8-12	30	3.4	3
RGO	WPU	7.7 wt.%	8.2-12.4	32	2.0	4
RGO	PEI	10 wt. %	8-12	<25	2.3	5
RGO@Fe_3O_4	PEI	10 wt. %	8-12	<20	2.5	6
CNTs sponge	Epoxy	2 wt. %	8-12	40	2.0	7
RGO	$BaTiO_3$	4 wt. %	8.2-12.4	40	1.5	8
CNTs	WPU	76 wt. %	8.2-12.4	80	0.8	9
RGO-foam	-	100 wt. %	8-12	25.2	0.3	10
CNTs	PLLA	10 wt. %	8.2-12.4	23	2.5	11
RGO	PU sponge	10 wt. %	8-12	57.7	60	12
carbon fibers/RGO@ Fe_2O_3	PR	30 wt. %	8.2-12.4	45.26	4.0	13

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