

## Electronic Supplementary Information

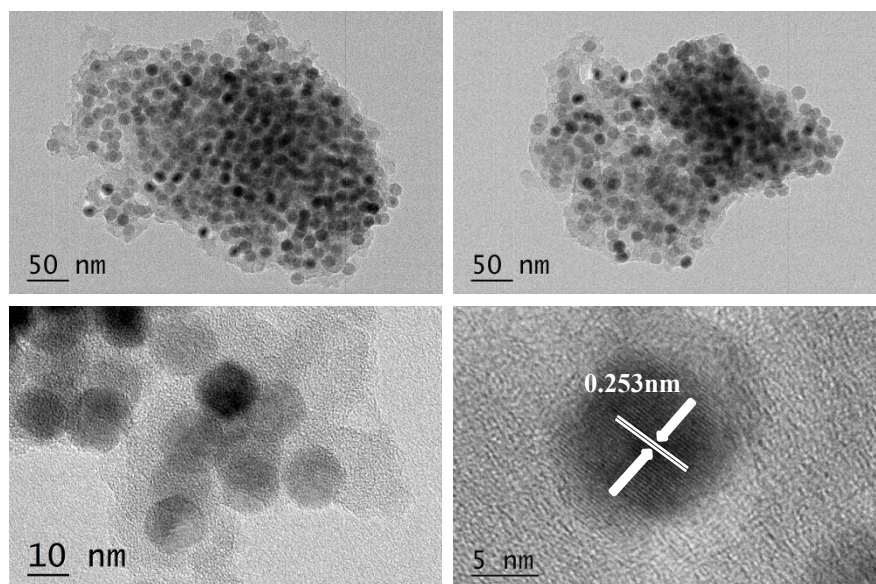
A facile one-pot strategy for fabrication of carbon-based  
microwave absorbers: effects on annealing and paraffin content

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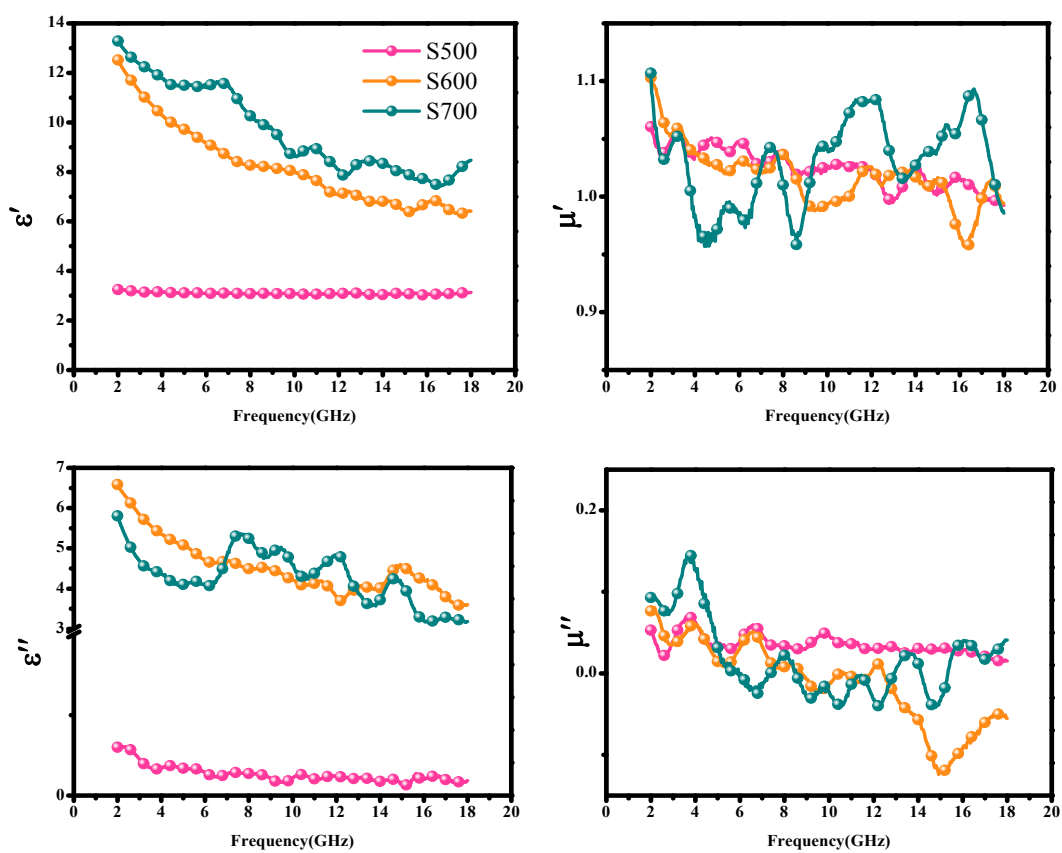
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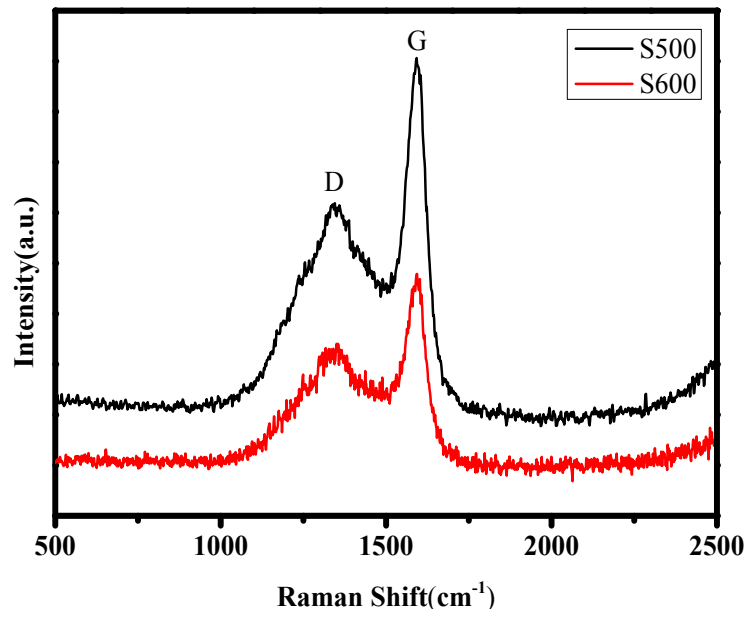
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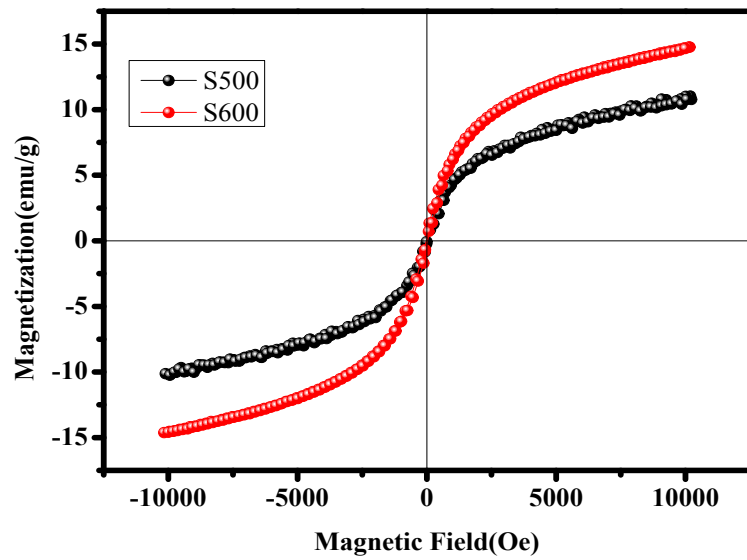
**Figure S1.** The permittivity and permeability values of S500, S600 and S700.



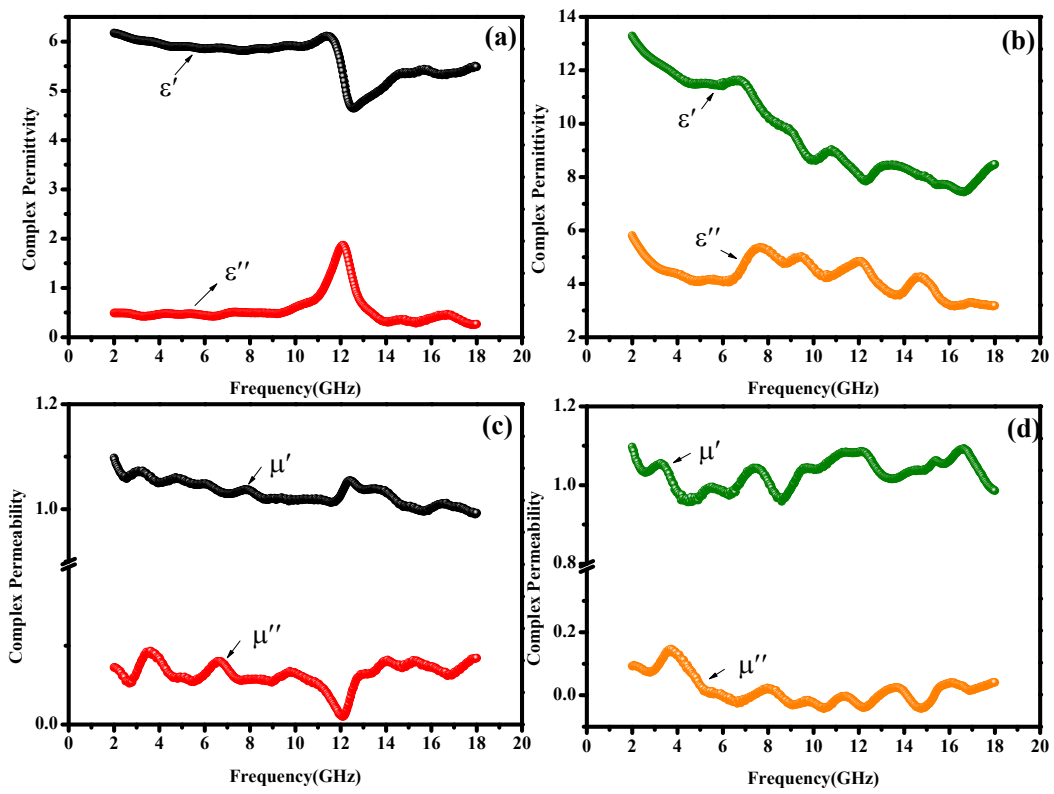
**Figure S2.** (a, b, c) The TEM images of S500. (d) HRTEM image of  $\text{Fe}_3\text{O}_4$  nanoparticle.



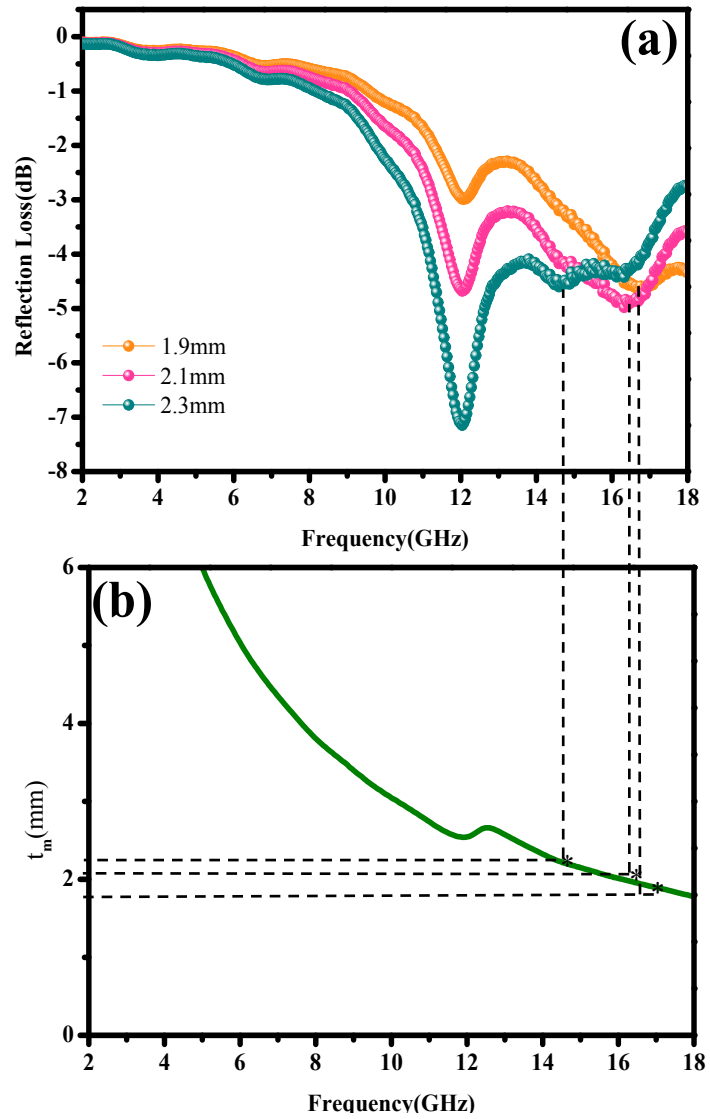
**Figure S3.** The Raman spectrum of S500 and S600.



**Figure S4.** The magnetic hysteresis loop of S500 and S600.



**Figure S5.** (a, b) The complex permeability of S37 and S46; (c, d) the complex permeability of S37 and S



**Figure S6.** (a)The reflection loss curves of S37 at the thickness of 1.9, 2.1 , 2.3 mm; (b) the quarter wavelength ( $\lambda/4$ ) versus frequency.

**Table S1.** Magnetic parameters of S500, S600 and S700.

	Ms(emu/g)	Hc(Oe)	Mr(emu/g)
S500	10.7	12	0.06
S600	14.7	22	0.18
S700	19.0	634	4.85

**Table S2.** microwave absorption properties of some reported absorbing materials.

Sample	RI <sub>min</sub> (dB)	$f_e$	$d$ (mm)	Wt%	Ref.
Fe <sub>3</sub> C/graphitic	-26	2	2.0	70%	43
Fe <sub>3</sub> C@C	-38	4	1.9	40%	44
Fe/C	-16	3.4	2.0	12.5%	45
Fe-Fe <sub>3</sub> C/C	-15.5	5.0	1.5	33%	45
Fe <sub>3</sub> O <sub>4</sub> @C	-20	3	2.0	50%	46
h-Ni/graphene	-16	3	4.0	60%	47
Ni@C nanorods	-26.3	5.2	2.3	40%	48
carbon-coated Fe <sub>3</sub> C	-34.6	5.5	1.9	40%	this work