Supplementary information

Dopamine-derived cavities/Fe$_3$O$_4$ Nanoparticles Encapsulated Carbonaceous Composites with Self-generating Three-Dimensional Network Structure as an Excellent Microwave Absorber

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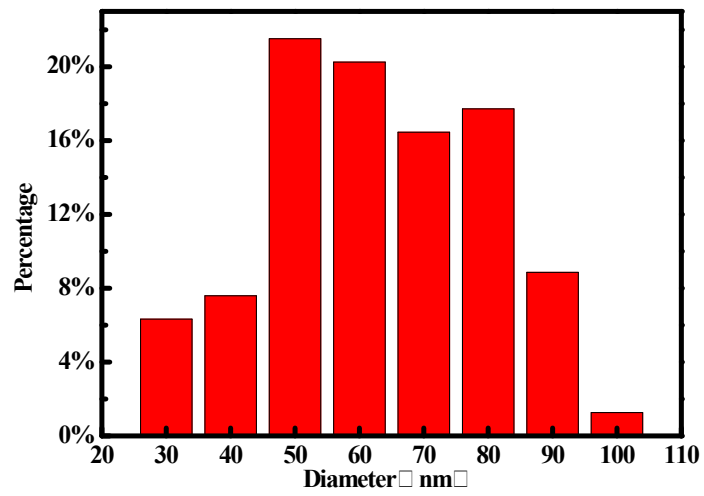
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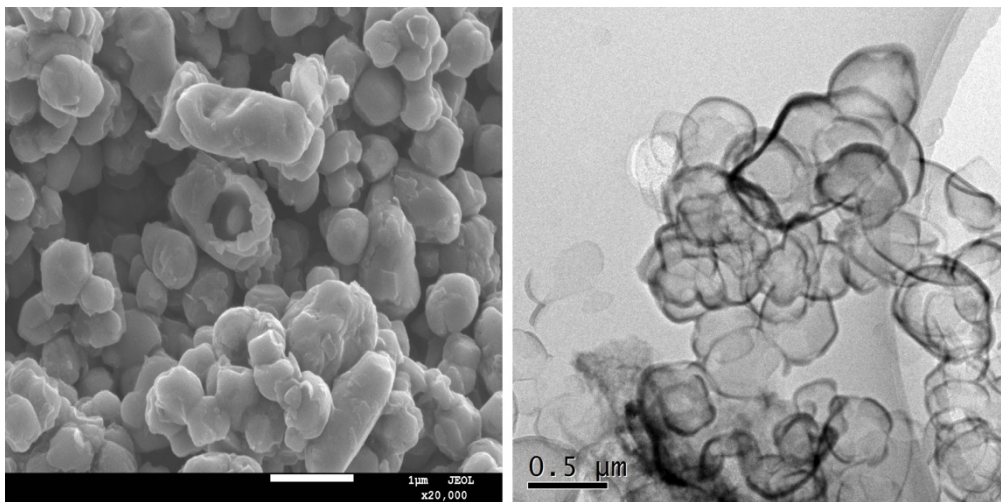**Fig. S1** Histogram of Fe_3O_4 nanoparticles size distribution.

Fig. S2 SEM and TEM images of individual HNC which was not brought into the carbonaceous matrix

Table S1 Specific surface area (S_{BET}), total pore volume and the most probable pore size (W_{peak}) of samples

Sample	S_{BET} (m$^2 \cdot$g^{-1})	Total pore volume (cm$^3 \cdot$g^{-1})	W_{peak} (nm)
FC-700	220	0.31	4.3
HFC-700	195	0.34	5.3
HFC-800	628	0.87	3.5
HFC-900	241	0.29	3.1

Table S2 Saturation magnetization (M_S), coercivity (H_C) and remanent magnetization (M_r) of FC-700, HFC-700, HFC-800 and HFC-900.

Sample	M_S (emu·g^{-1})	H_C (Oe)	M_r (emu·g^{-1})
FC-700	9.92	149.85	1.31
HFC-700	10.00	149.99	1.31
HFC-800	1.58	149.90	0.09
HFC-900	19.01	29.94	0.30