

Support information

Facile synthesis of magnetic metal implanted hierarchical porous carbon networks for efficient microwave absorption

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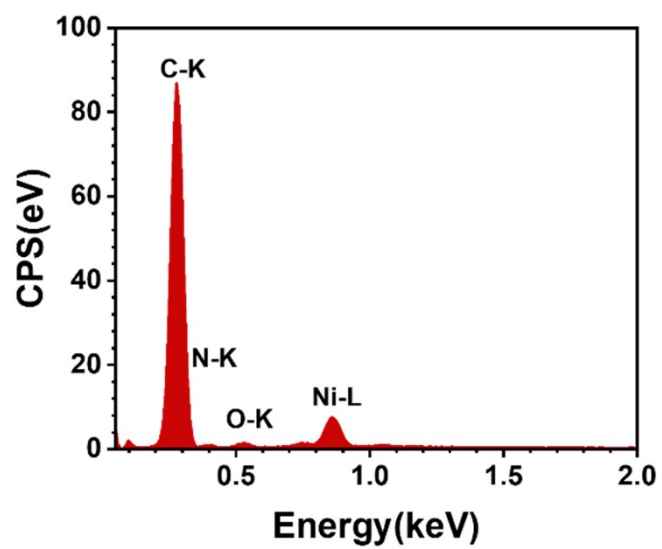


Fig. S1 EDX spectrum of HPC/Ni.

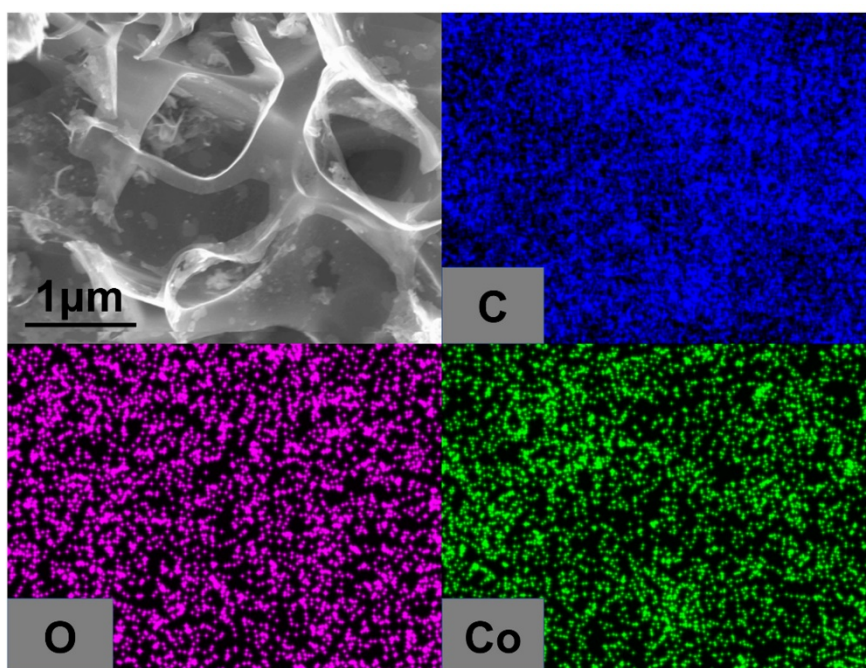


Fig. S2 EDX results of HPC/Co.

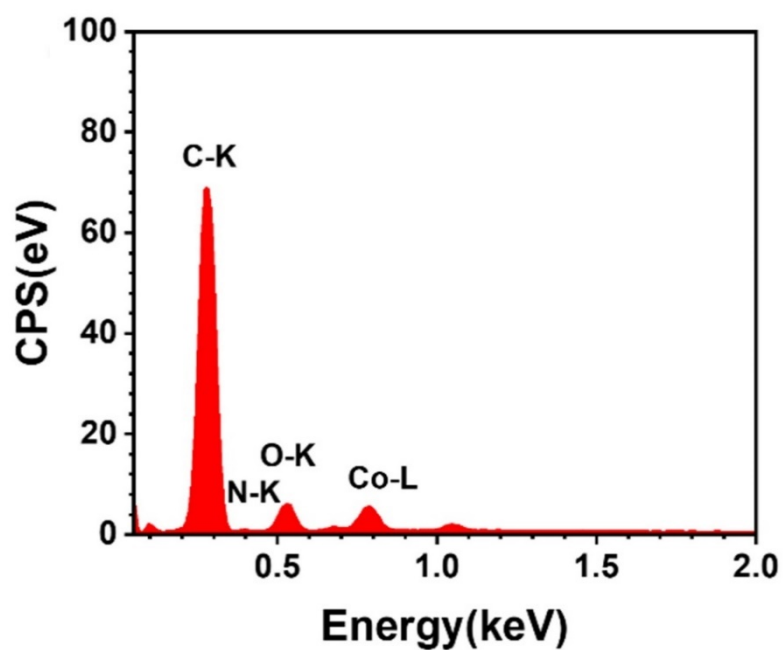


Fig. S3 EDX spectrum of HPC/Co.

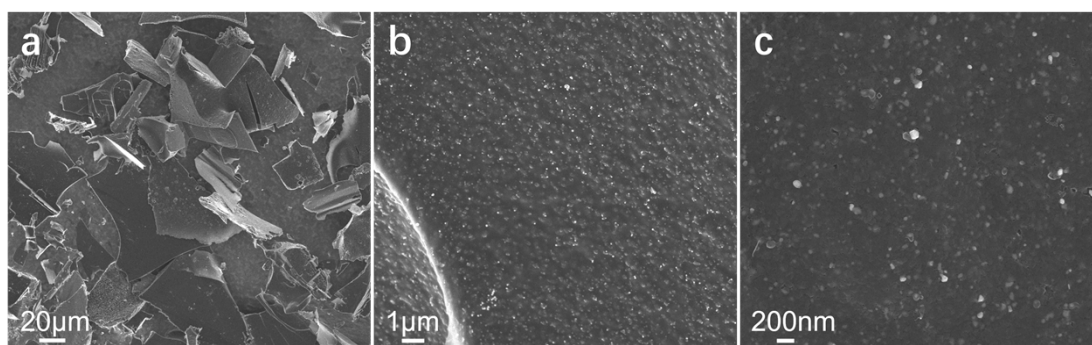


Fig. S4 (a, b) Low magnification and (c) high magnification SEM images of C/Ni.

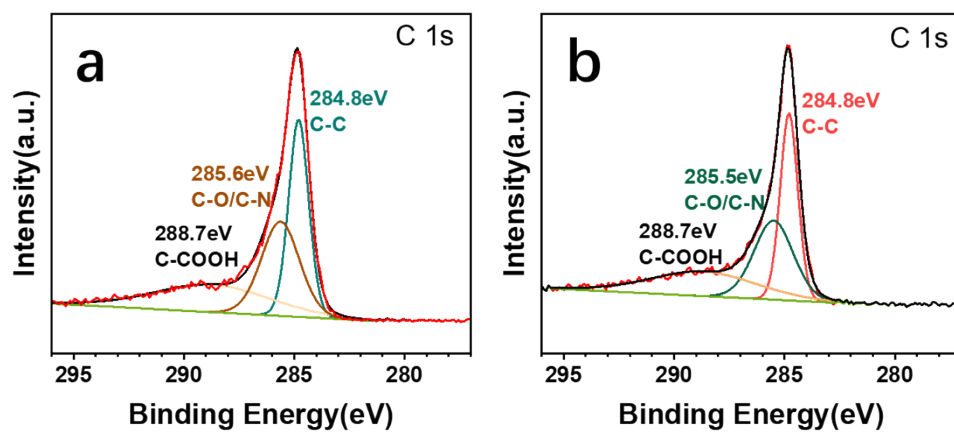


Fig. S5 The analysis results of C 1s XPS spectra of (a) HPC/Ni; (b) HPC/Co.

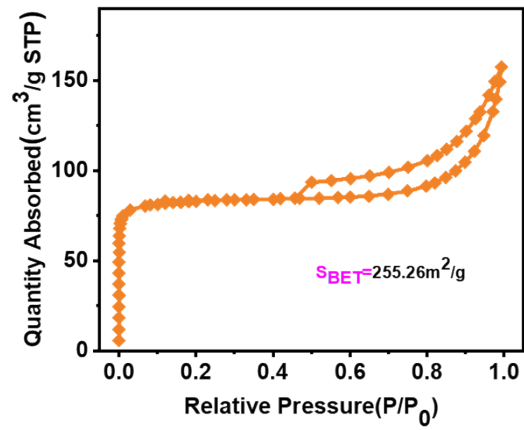


Fig. S6. nitrogen adsorption-desorption isotherms of HPC/Co.

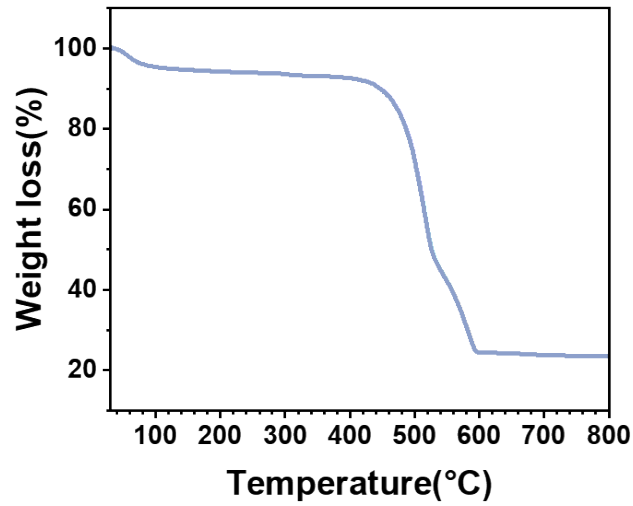


Fig. S7. TG curve of HPC/Ni in air atmosphere.

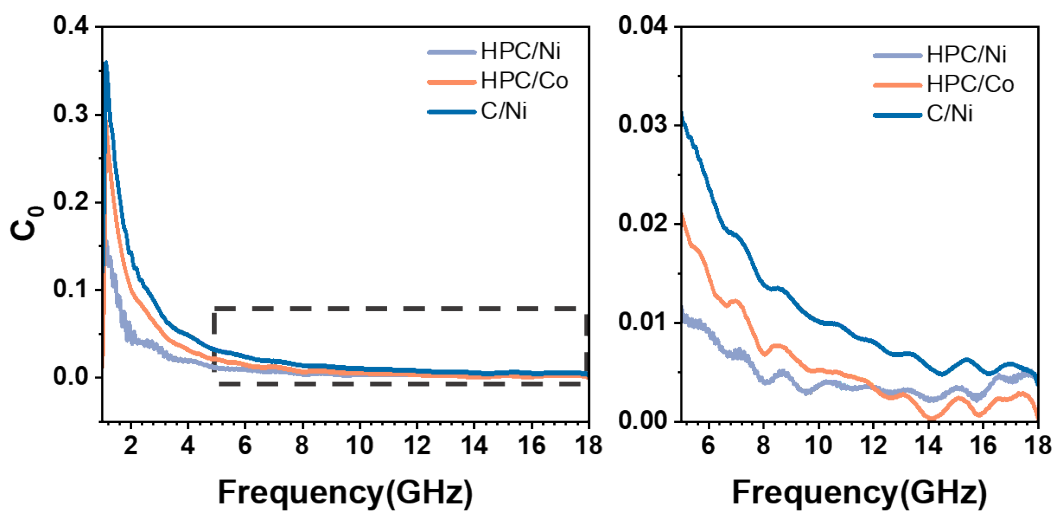


Figure S8. The values of $\mu''(\mu')^{-2}f^1$ for C/Ni, HPC/Ni, and HPC/Co samples.

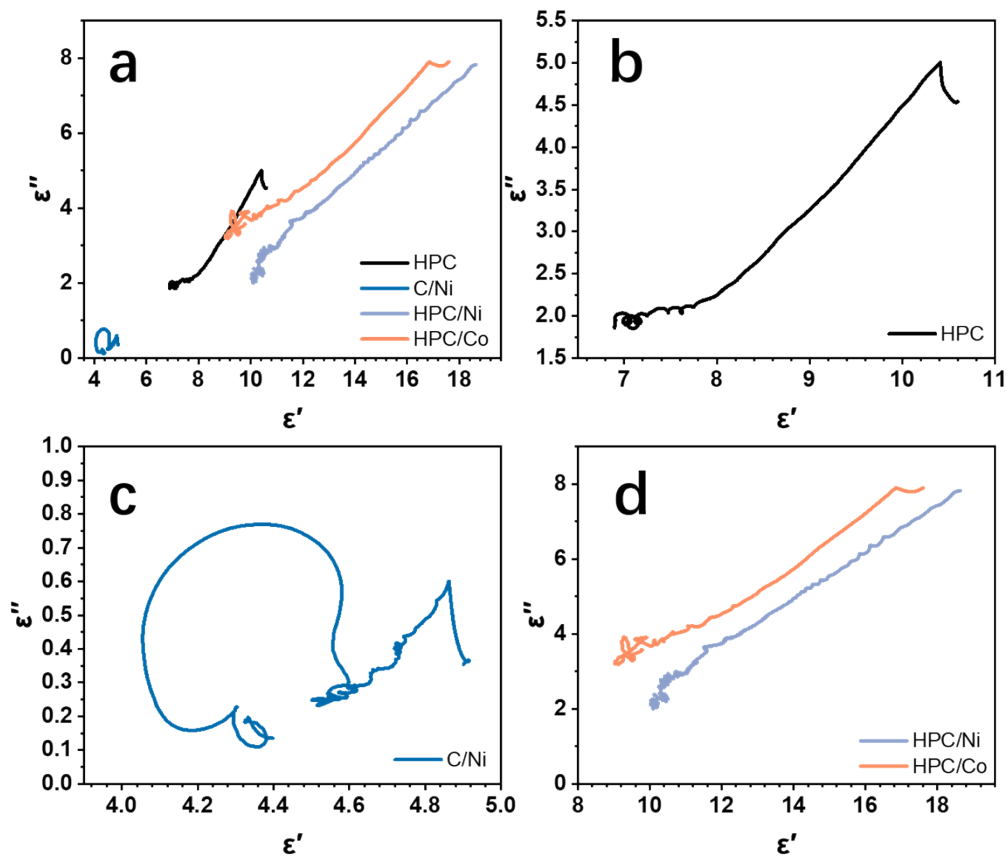


Fig. S9 Cole-Cole semicircles of (a)all samples; amplified image of (b) HPC, (c) C/Ni, (d) HPC/Ni and HPC/Co.

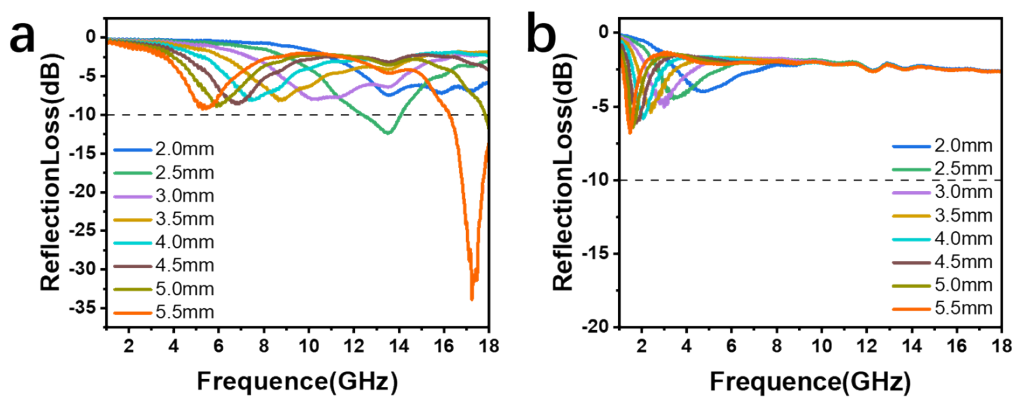


Fig. S10 Reflection loss of HPC/Ni at different filler loading ratio of (a)10 wt.%, (b)30 wt.%.

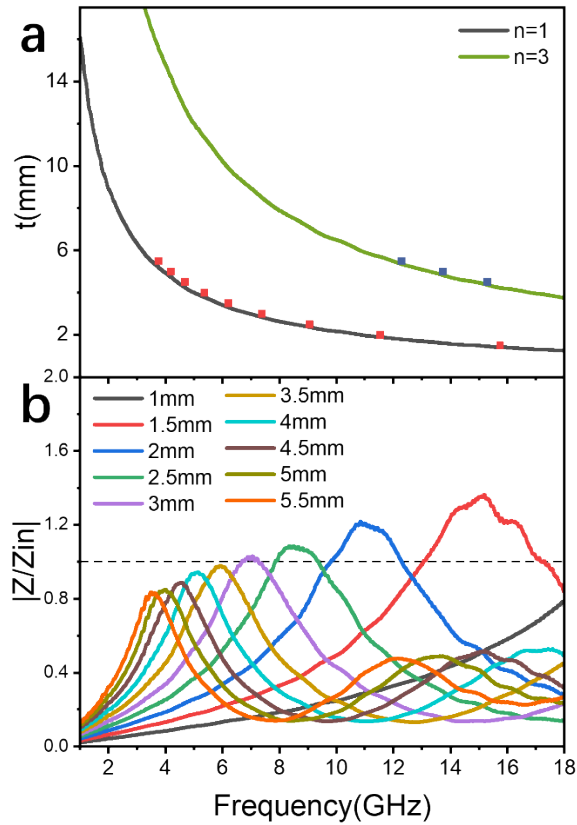


Fig. S11 (a) Matching thickness and (b) impedance matching of HPC/Ni sample.

Table S1 Comparison of electromagnetic wave absorption performance of various carbon-based materials.

Absorber	Ratio (wt%)	RLmin (dB)	Matching Thickness(mm)	EAB (GHz)	Thickness (mm)	Reference
HPC/Ni	20	-58.7	2.9	3.7	1.5	This work
HPC/Co	20	-50.2	1.7	4.9	1.7	This work
Ni/C-500	40	-51.8	2.6	3.5	2.6	[6]
CCPA1	40	-43.38	2.5	6.04	1.9	[7]
FDC-50 BC/	30	-52	2.5	4.62	1.55	[11]
Fe ₃ O ₄ @ C-2	30	-56.61	2.46	≥6	1.46	[19]
NiCo ₂ O ₄ -h/G	50	-37.3	3	2.6	1.5	[57]
AFC-3.5-10% Ni	20	-47	4.5	3.8	1.75	[59]
RHPC/Fe	25	-21.8	1.4	5.6	1.4	[60]
RHPC/Co	25	-40.1	1.8	2.7	1.8	[60]