Heterostructured SN@BAPC composite design via coordinated structure-morphology modulation: mechanism of electromagnetic wave dissipation

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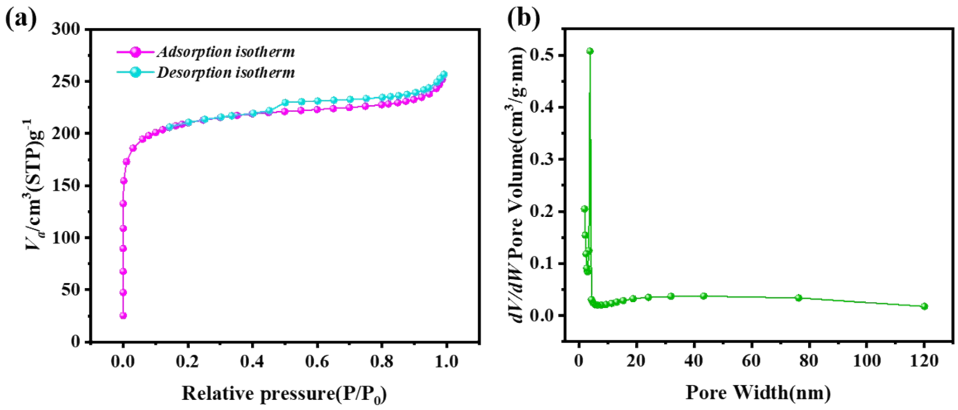

Figure S1 N_2 adsorption-desorption curves(a) and pore size distribution(b) of BAPC.

The N_2 adsorption-desorption isotherm of the BAPC porous material exhibits a Type IV characteristic (Figure S1a), with an H2-type hysteresis loop appearing in the relative pressure range of 0.4-0.9, indicating the presence of mesoporous structures in the porous carbon material. The pore size distribution, calculated using the BJH model, is mainly concentrated within 0-5 nm (Figure S1b), which is consistent with the pore mouth sizes derived from the desorption curve, suggesting good pore connectivity. The BET specific surface area is 793.90 m^2/g, which contributes to the creation of longer electromagnetic wave reflection paths within the material.

Table S2 The relevant pore structure data of BAPC.

Thermophysical properties	BAPC
BET surface area (m^2·g^{-1})	793.90
Micropore volume (cm^3·g^{-1})	0.24
Micropore area (m^2·g^{-1})	600.25
Average pore size (nm)	1.99

Table S3 Detailed R-f-d data of the SN@BAPC composite material.

Sample	***RL_{min}*/dB**	**EAB/GHz**	**d/mm**
SN@BAPC-C	-42.32	3.12(11.52-14.64)	1.7
SN@BAPC-P	-38.36	7.12(10.88-18.00)	2.1
SN@BAPC-U	-20.82	0.88(3.44-4.32)	5.7