

## Supporting Information

### Enhancement of the Microwave Absorption Properties by Adjusting the Sintering Conditions and Carbon Shell Thickness of Ni@C Submicrospheres

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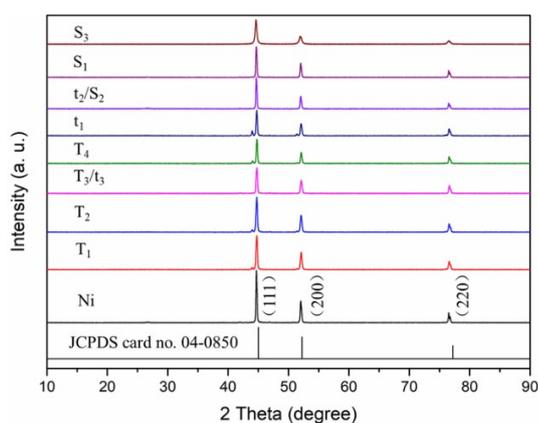


Fig. S1 XRD patterns of the Ni and various Ni@C samples.

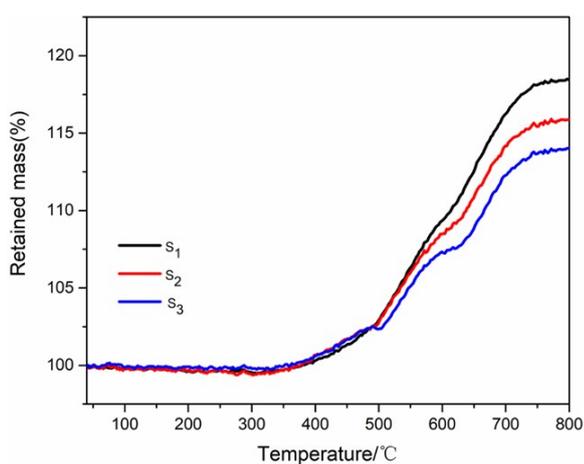
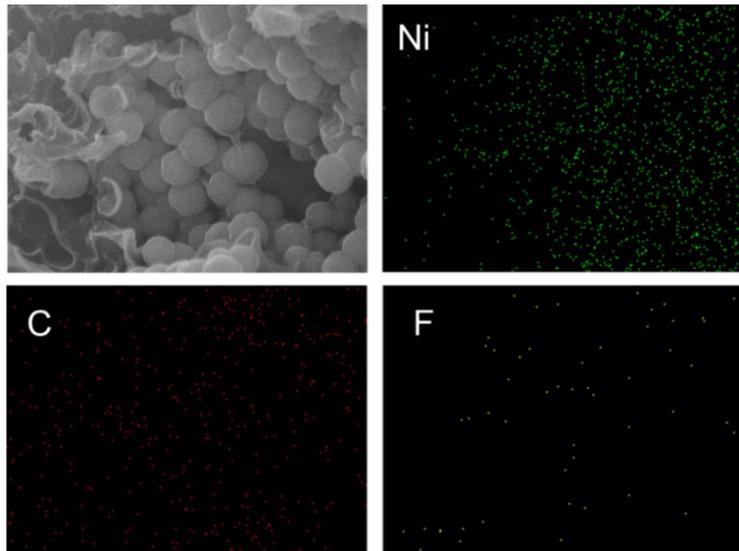
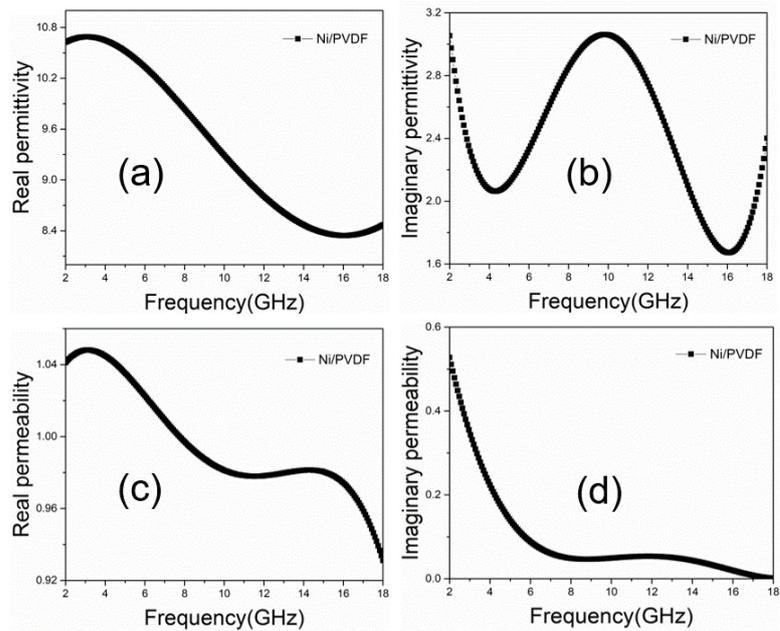


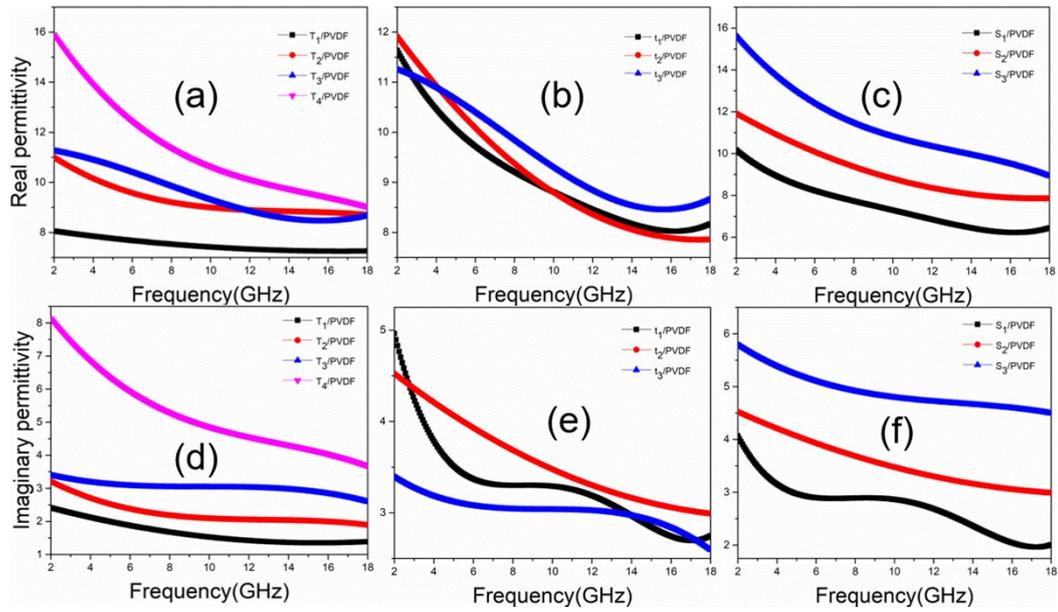
Fig. S2 TG curves of the Ni@C submicrospheres with different carbon shell thickness.



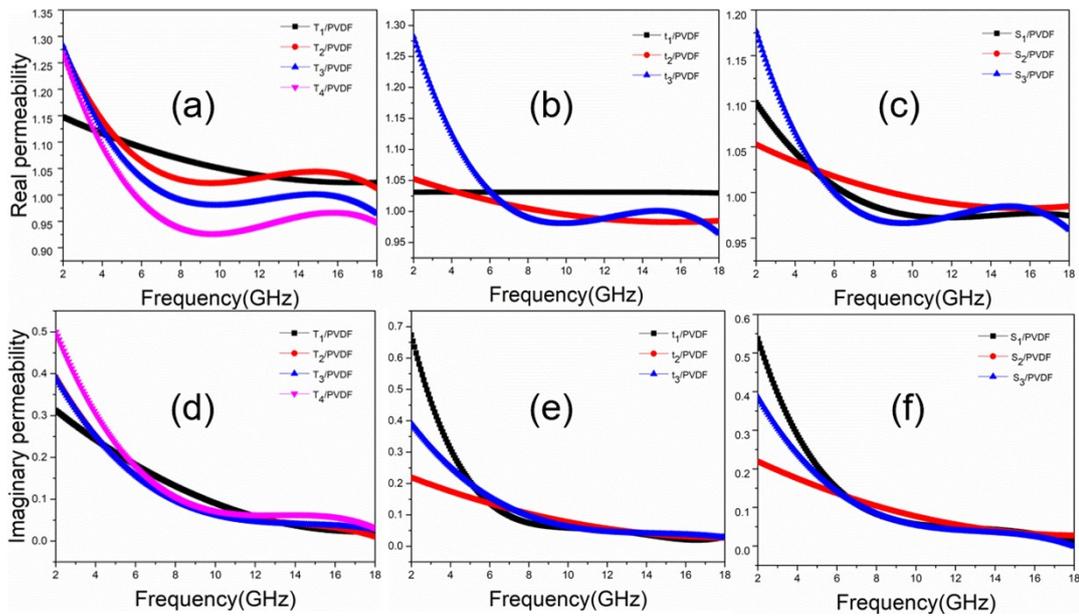
**Fig. S3** FESEM image of the Ni@C/PVDF composites( $S_2$ ) and corresponding elemental mapping images of Ni, C and F.



**Fig. S4** Relative complex permittivity and complex permeability of the Ni/PVDF composites in the frequency range from 2.0 to 18.0 GHz.



**Fig. S5** Real parts (a-c) and imaginary parts (d-f) of the permittivity of the various Ni@C/PVDF composites in the frequency range from 2.0 to 18.0 GHz.



**Fig. S6** Real parts (a-c) and imaginary parts (d-f) of the permeability of the various Ni@C/PVDF composites in the frequency range from 2.0 to 18.0 GHz.