

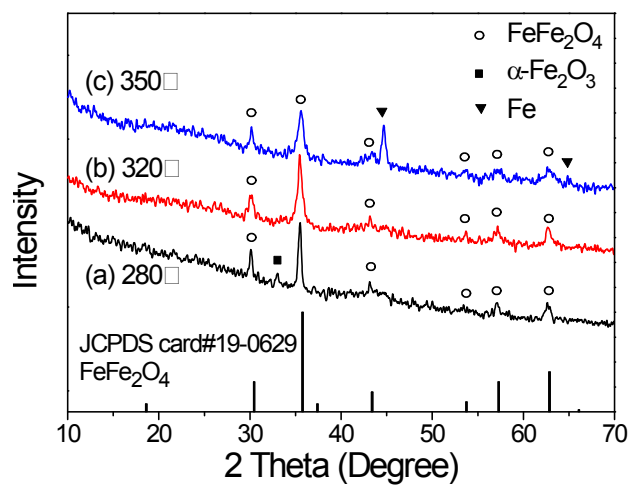
**Electronic Supporting Information for:**

**Magnetic  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>, Fe<sub>3</sub>O<sub>4</sub>, and Fe nanoparticles confined within  
ordered mesoporous carbons as efficient microwave absorbers**

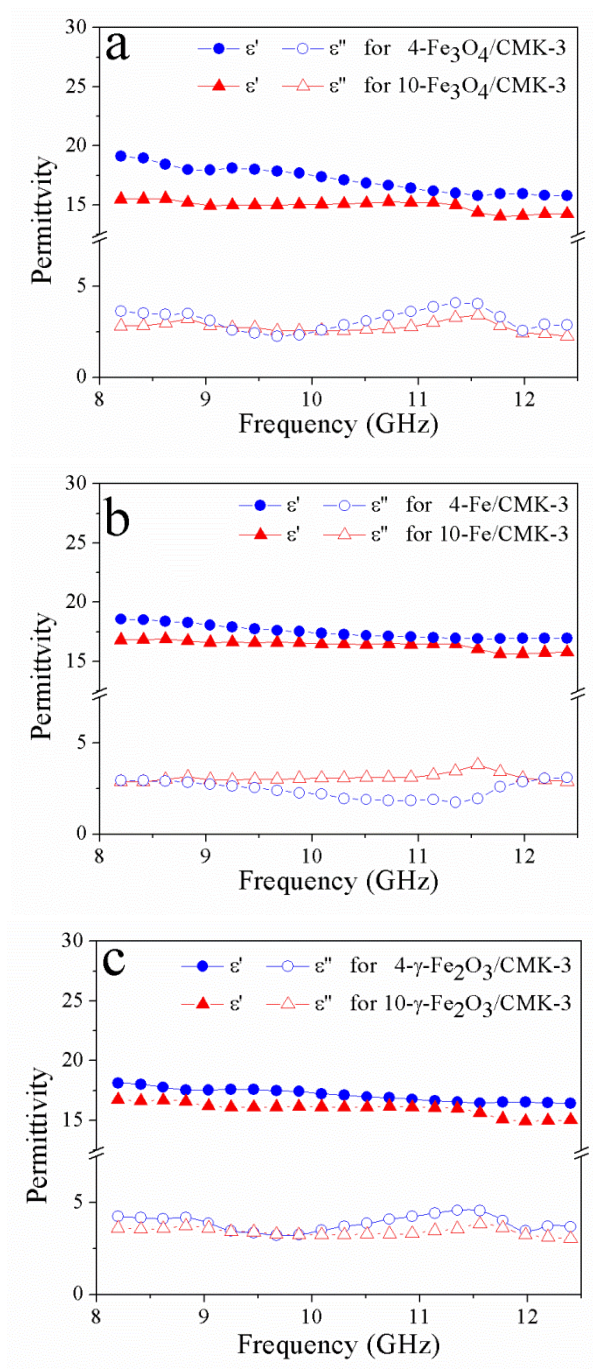
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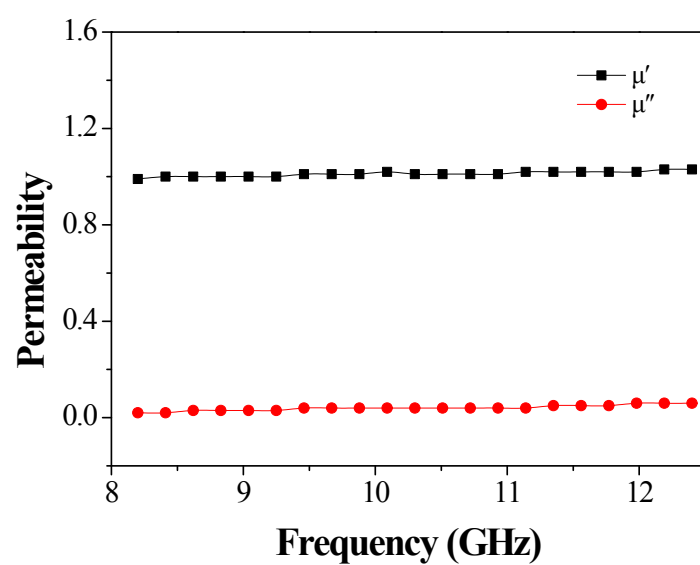
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**Fig. S1** Wide-angle XRD patterns for the reduction of 10- $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/CMK-3 powder at a) 280 °C, b) 320 °C, c) 350 °C for 6 h in Ar/H<sub>2</sub> (5%) atmosphere. The results show the optimal temperature for the transformation of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> to FeFe<sub>2</sub>O<sub>4</sub> is 320 °C.



**Fig. S2** Frequency dependences of complex permittivity for a)  $\text{Fe}_3\text{O}_4/\text{CMK-3}$ , b)  $\text{Fe}/\text{CMK-3}$  and c)  $\gamma\text{-Fe}_2\text{O}_3/\text{CMK-3}$



**Fig. S3** Frequency dependence of complex permeability for pure CMK-3 carbon.