## **Electronic Supplementary Information**

## Achieving Hierarchical hollow carbon@Fe@Fe<sub>3</sub>O<sub>4</sub> nanospheres with superior microwave absorption properties and lightweight feature

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Figure S1. The XRD pattern of the as-prepared SnO<sub>2</sub>.



Figure S2. The TEM images of the hollow SnO<sub>2</sub>.



Figure S3. The TEM image of carbon@SnO<sub>2</sub>.



Figure S4. The TEM image of residual Sn after a short time of HCl treatment.



Figure S5. The element mapping of typical carbon@Fe@Fe<sub>3</sub>O<sub>4</sub> nanospheres. (a) C (b) O( C )Fe (d) Si.