

## Supplementary Material

# Core-Shell Structured SiO<sub>2</sub>@NiFe LDH Composite for Broadband Electromagnetic Wave Absorption

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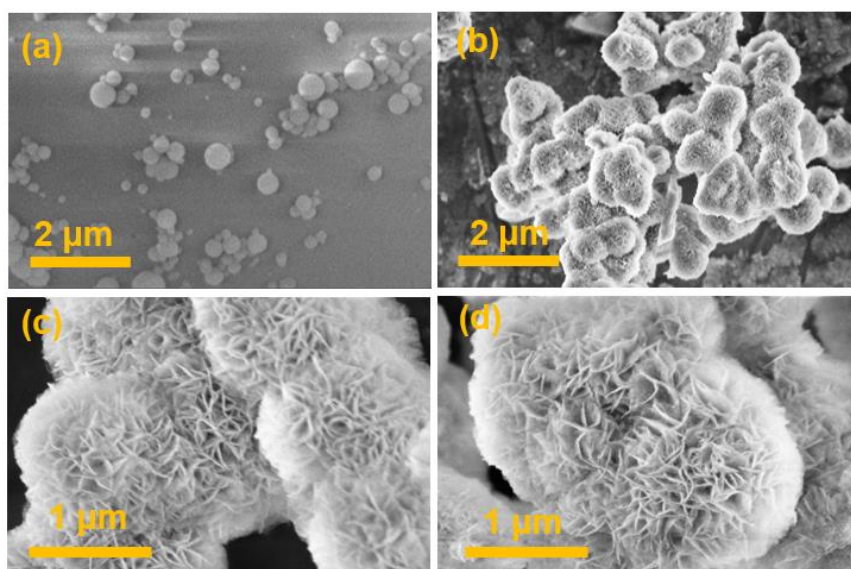
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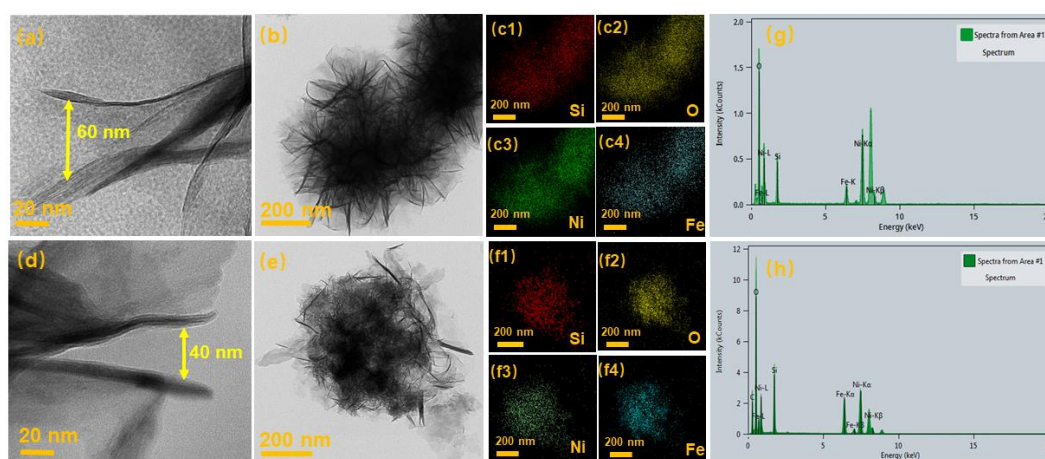
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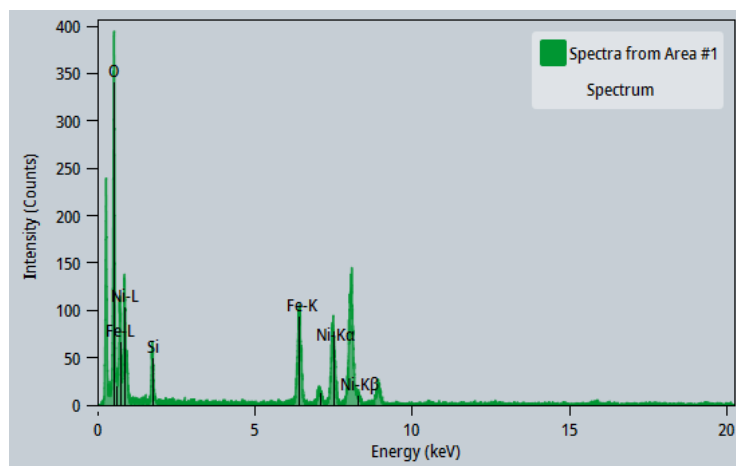
† These authors contributed equally to this work.



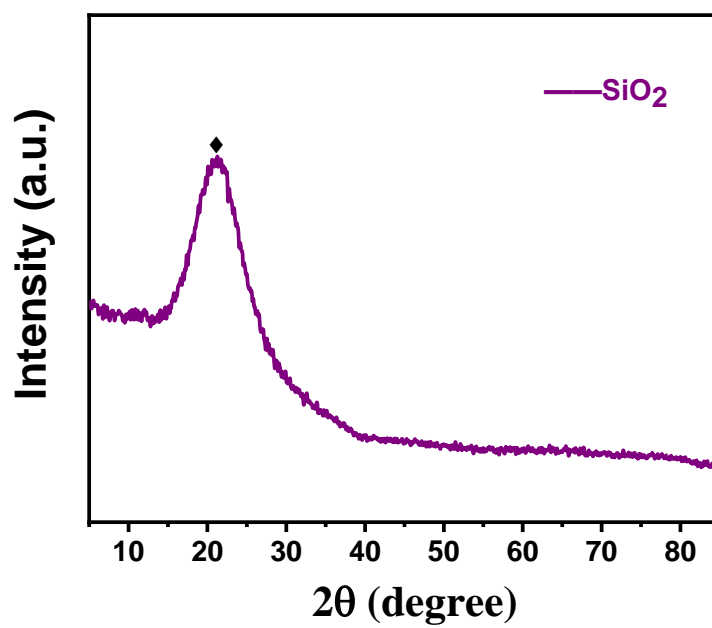
**Figure S1.** (a) SEM image of  $\text{SiO}_2$ ; (b-d) the enlarged images of  $\text{SiO}_2$ @NiFe-LDH-3.



**Figure S2.** TEM image of (a) the enlarged detail of  $\text{SiO}_2$ @NiFe LDH-1; (b)  $\text{SiO}_2$ @NiFe LDH-1; (c1-c4) the EDS Mapping of  $\text{SiO}_2$ @NiFe LDH-1; (d) the enlarged detail of  $\text{SiO}_2$ @NiFe LDH-2; (e)  $\text{SiO}_2$ @NiFe LDH-2; (f1-f4) the EDS Mapping of  $\text{SiO}_2$ @NiFe LDH-2; (g) EDS spectrum of  $\text{SiO}_2$ @NiFe LDH-1; (h) EDS spectrum of  $\text{SiO}_2$ @NiFe LDH-2.



**Figure S3.** EDS spectrum of SiO<sub>2</sub>@NiFe LDH-3.



**Figure S4.** The XRD pattern of SiO<sub>2</sub>.

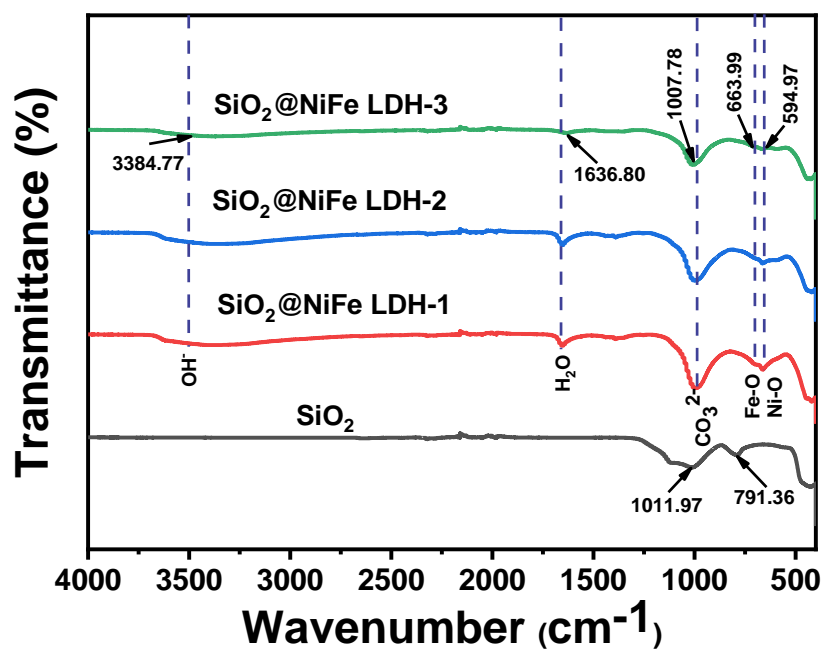
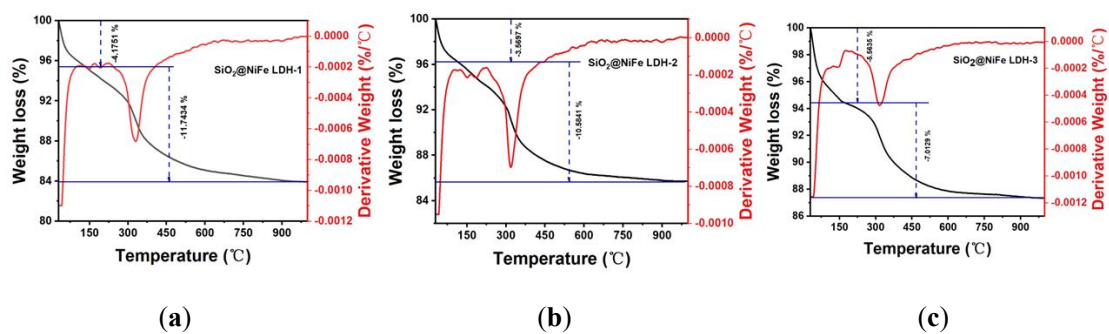
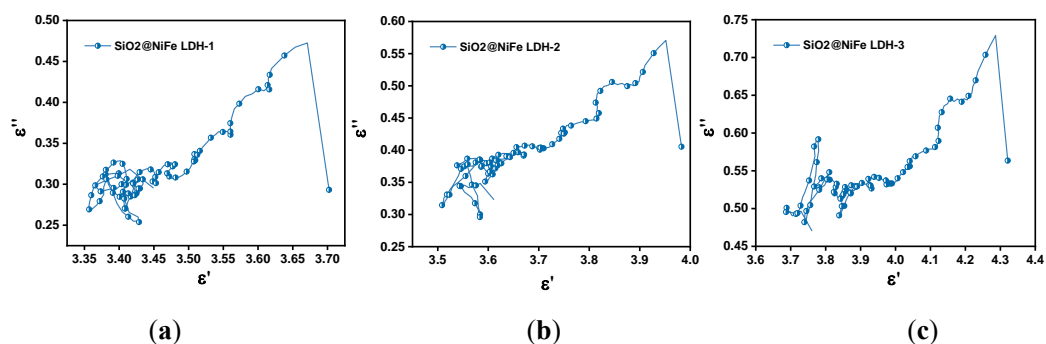


Figure S5. FT-IR spectra of  $\text{SiO}_2$  and  $\text{SiO}_2$ @NiFe LDH-1, 2, 3.



**Figure S6.** The TGA of (a)  $\text{SiO}_2@\text{NiFe}$  LDH-1, (b)  $\text{SiO}_2@\text{NiFe}$  LDH-2, (c)  $\text{SiO}_2@\text{NiFe}$  LDH-3.



**Figure S7.** Cole-Cole semicircles of (a)  $\text{SiO}_2@\text{NiFe}$  LDH-1, (b)  $\text{SiO}_2@\text{NiFe}$  LDH-2 and (c)  $\text{SiO}_2@\text{NiFe}$  LDH-3.