Supporting Information

# Metal-organic frameworks-derived lilac flower-like CoNiZnO@nitrogen-doped carbon composites via trapping microwave strategy for efficient absorption

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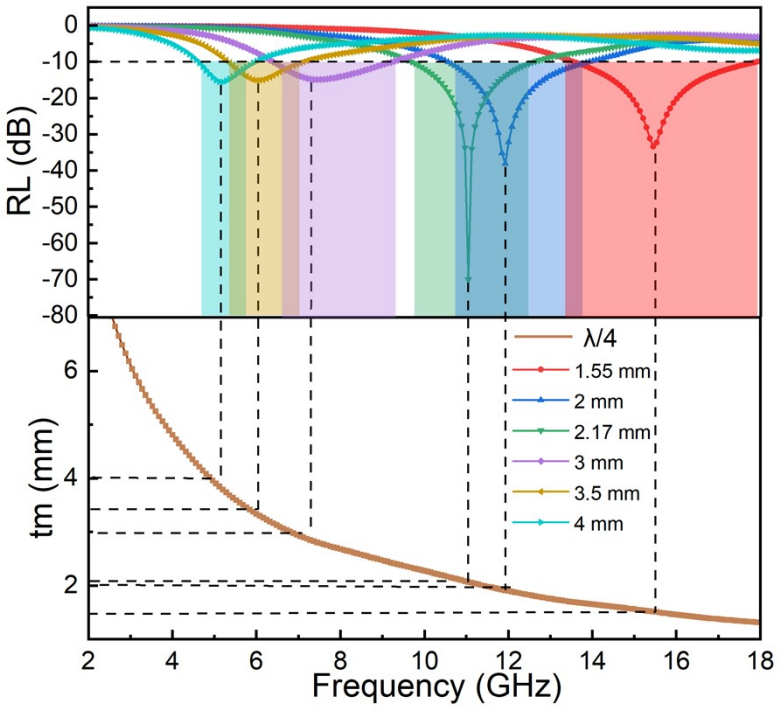


**Fig. S1** Dependence of the matching thickness ($t_m$) on frequency ($f_m$) under λ/4 of CoNiZnO@NC-30.

**Fig. S2** Photo of a magnet attracting CoNiZnO@NC-30.

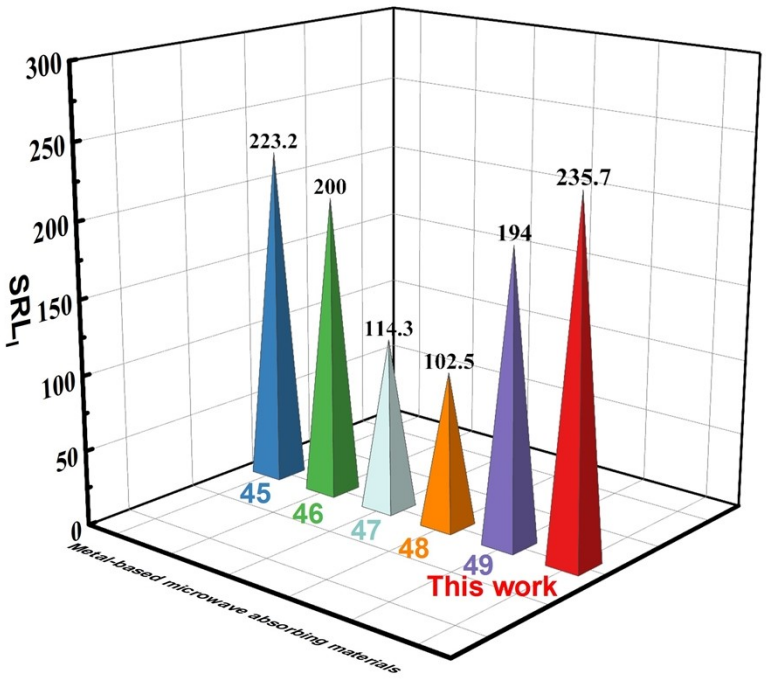


**Fig. S3** $SRL_l$ of CoNiZnO@NC-30 composite and the metal-based microwave absorbing materials reported in recent years.

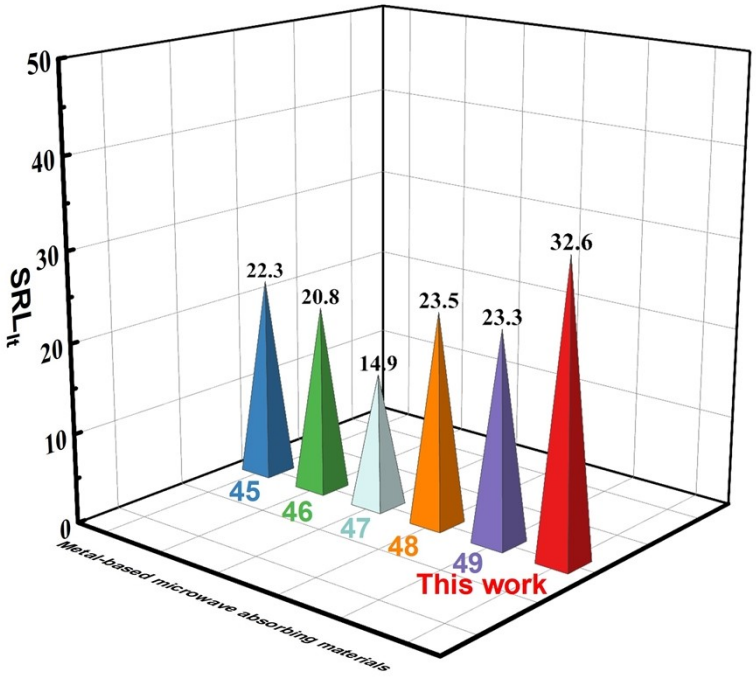


**Fig. S4** $SRL_{lt}$ of CoNiZnO@NC-30 composite and the metal-based microwave absorbing materials reported in recent years.


**Fig. S5** Photo of CoNiZnO@NC-30 composite.

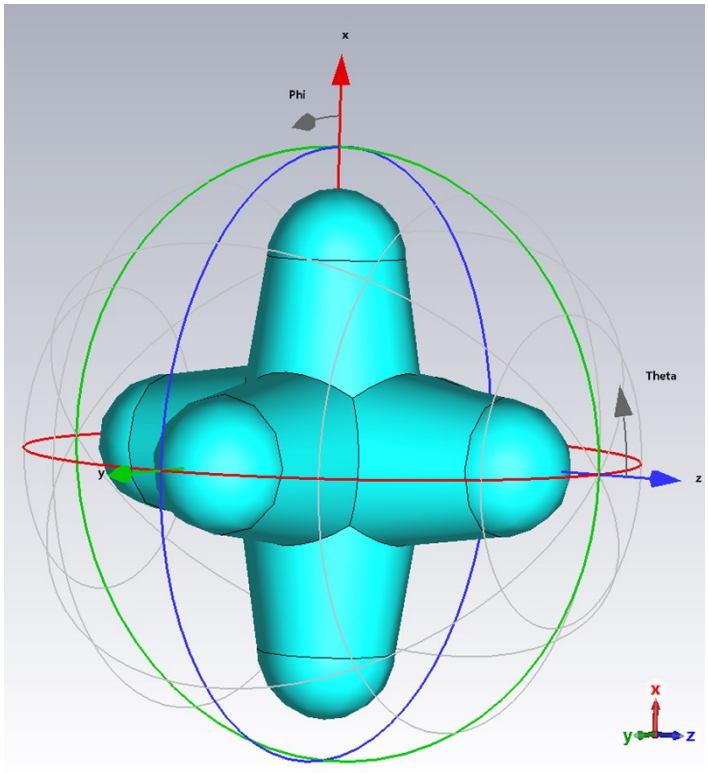


**Fig. S6** The three-dimensional model diagram of lilac flower-like CoNiZnO@NC.

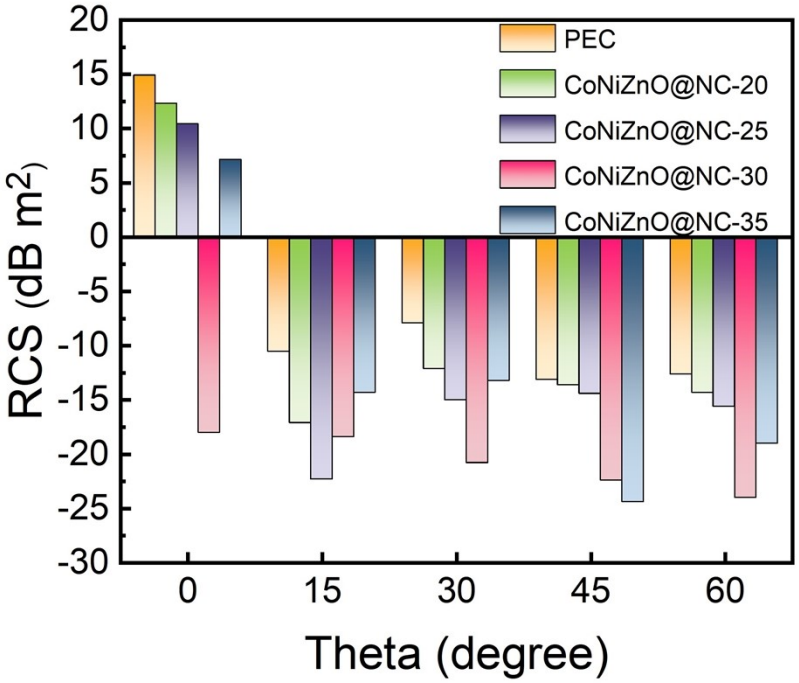

**Fig. S7** RCS values of CoNiZnO@NC composites in the angle of 0°, 15°, 30°, 45°, and 60°.

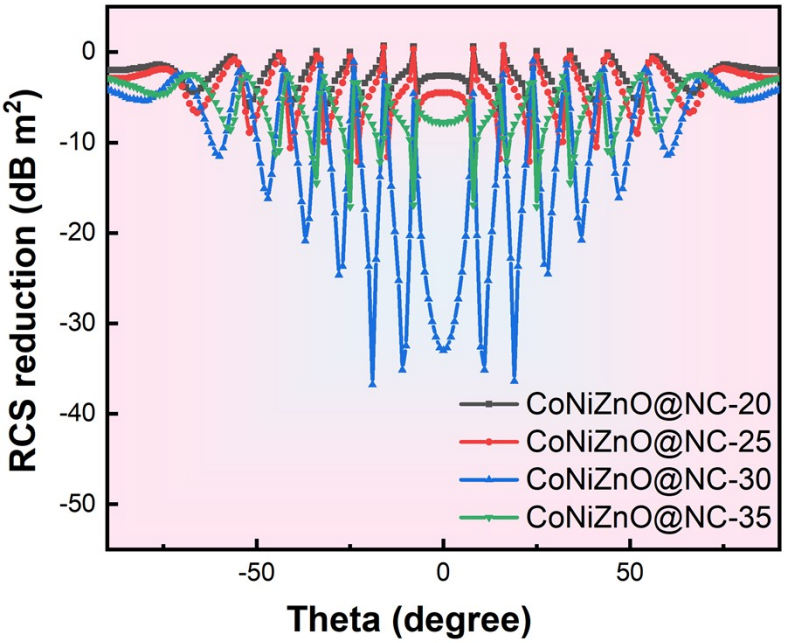


**Fig. S8** RCS reduction between CoNiZnO@NC composites and PEC.

**Table S1** Comparison of metal-based microwave absorbing materials with CoNiZnO@NC-30 composite.

| Samples | Thickness (mm) | $RL_{min}$ (dB) | EAB(GHz) | Filling amount |
|---|---|---|---|---|
| [1] | 2.5 mm | -55.8 dB | 4.1 GHz | 25% |
| [2] | 2.4 mm | -50.0 dB | 4.3 GHz | 25% |
| [3] | 2.3 mm | -34.3 dB | 3.3 GHz | 30% |
| [4] | 2.4 mm | -56.4 dB | 4.0 GHz | 55% |
| [5] | 2.5 mm | -58.2 dB | 4.0 GHz | 30% |

| | | | | |
|---|---|---|---|---|
| This work | 2.17 mm | -70.7 dB | 4.48 GHz | 30% |

## References


[1] R. Shu, W. Li, Y. Wu, J. Zhang and G. Zhang, *Chem. Eng. J.,* 2019, **362**, 513-524.

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