

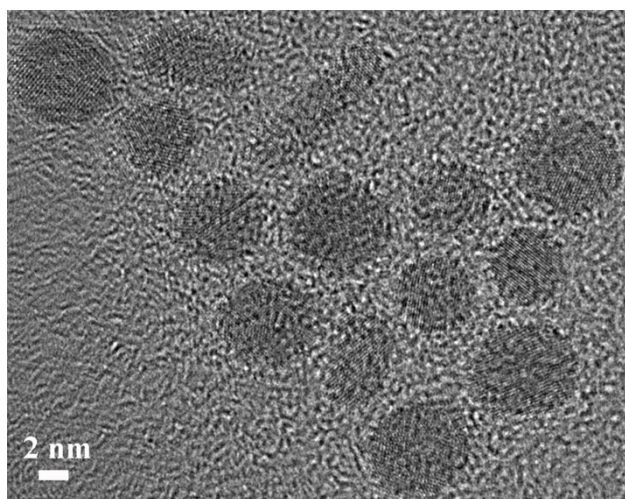
## Supporting Information

### Morphology-dominant microwave absorption enhancement found from nano-flower CoO self-assembly nanostructures

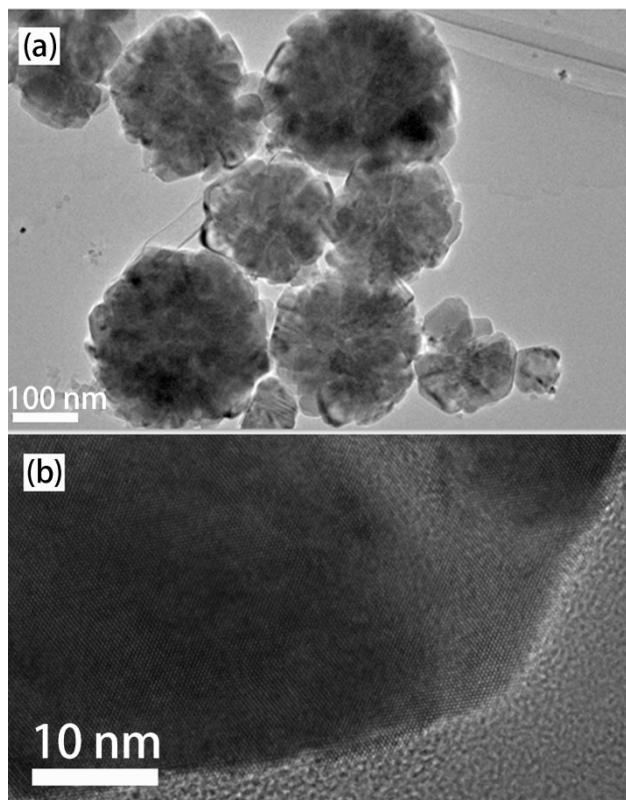
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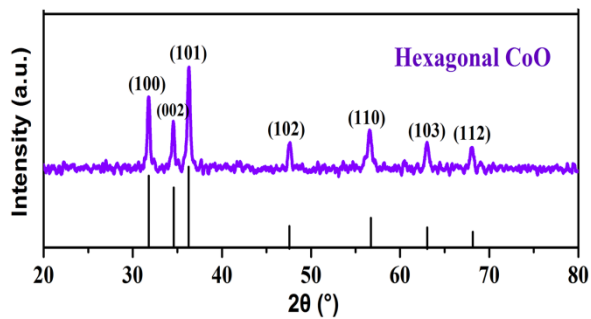
<sup>b</sup> *Navy Equipment Technology Institute, Beijing Postbox 1481, 102442*



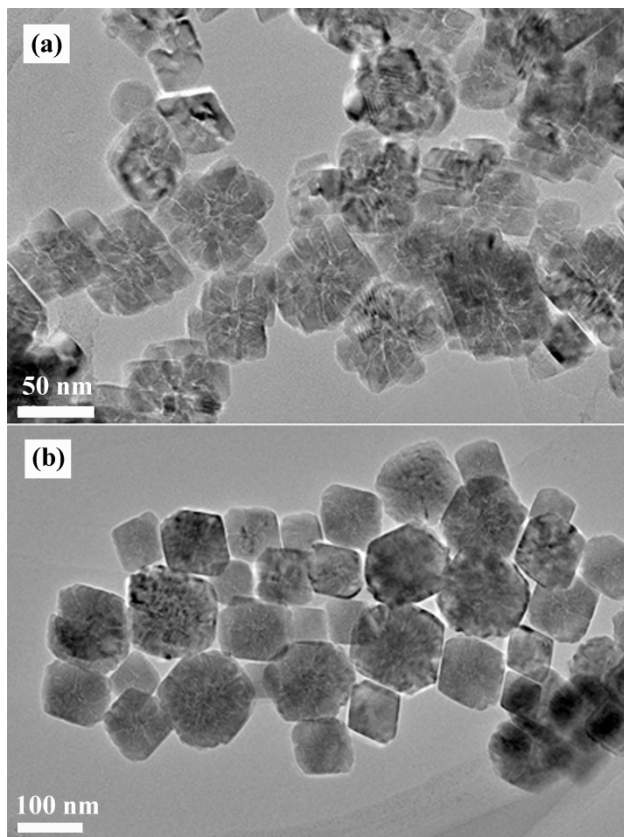
**Fig. S1** TEM image of sphere CoO nanocrystals.



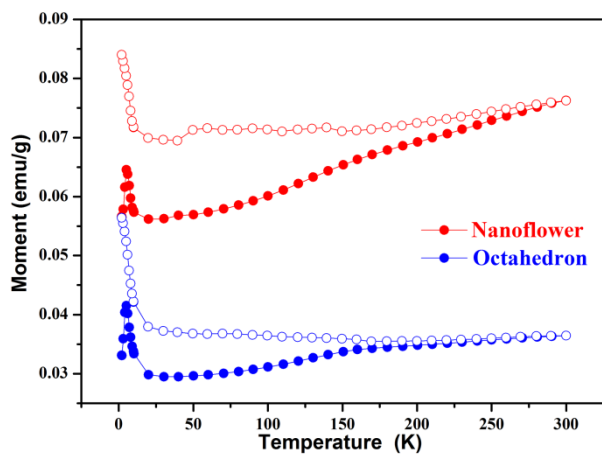
**Fig. S2** TEM images of hexagonal CoO nanocrystals: (a) TEM image, (b) HRTEM image.



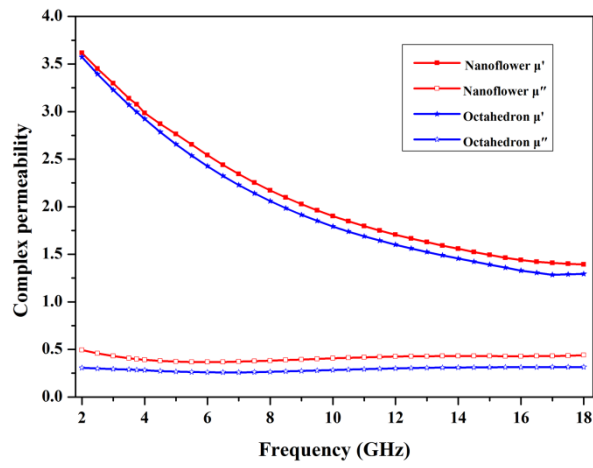
**Fig. S3** XRD pattern of the as-prepared hexagonal CoO NCs.



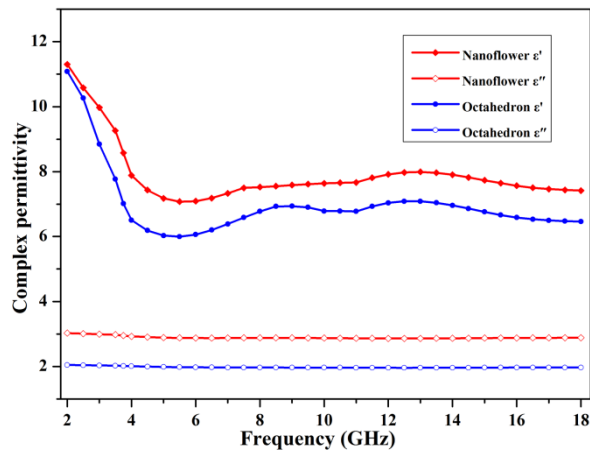
**Fig. S4** TEM images of CoO nanocrystals prepared with different  $\text{Co}(\text{acac})_3$  precursor: (a) 0.2 mmol, (b) 1.0 mmol.



**Fig. S5** ZFC (filled symbols) and FC (open symbols) magnetization curves for 3D self-assembly nano-flower (red line) and octahedron (blue line) of cubic CoO NCs.



**Fig. S6** Frequency dependence of real and imaginary parts of complex permeability of the nano-flower and nano-octahedron CoO NCs/EP composites.



**Fig. S7** Frequency dependence of real and imaginary parts of complex permittivity of the nano-flower and nano-octahedron CoO NCs/EP composites.