

## Supporting Information

### **Construction of urchin-like porous Co/CoO/C composites enabling high-performance wideband electromagnetic wave absorption**

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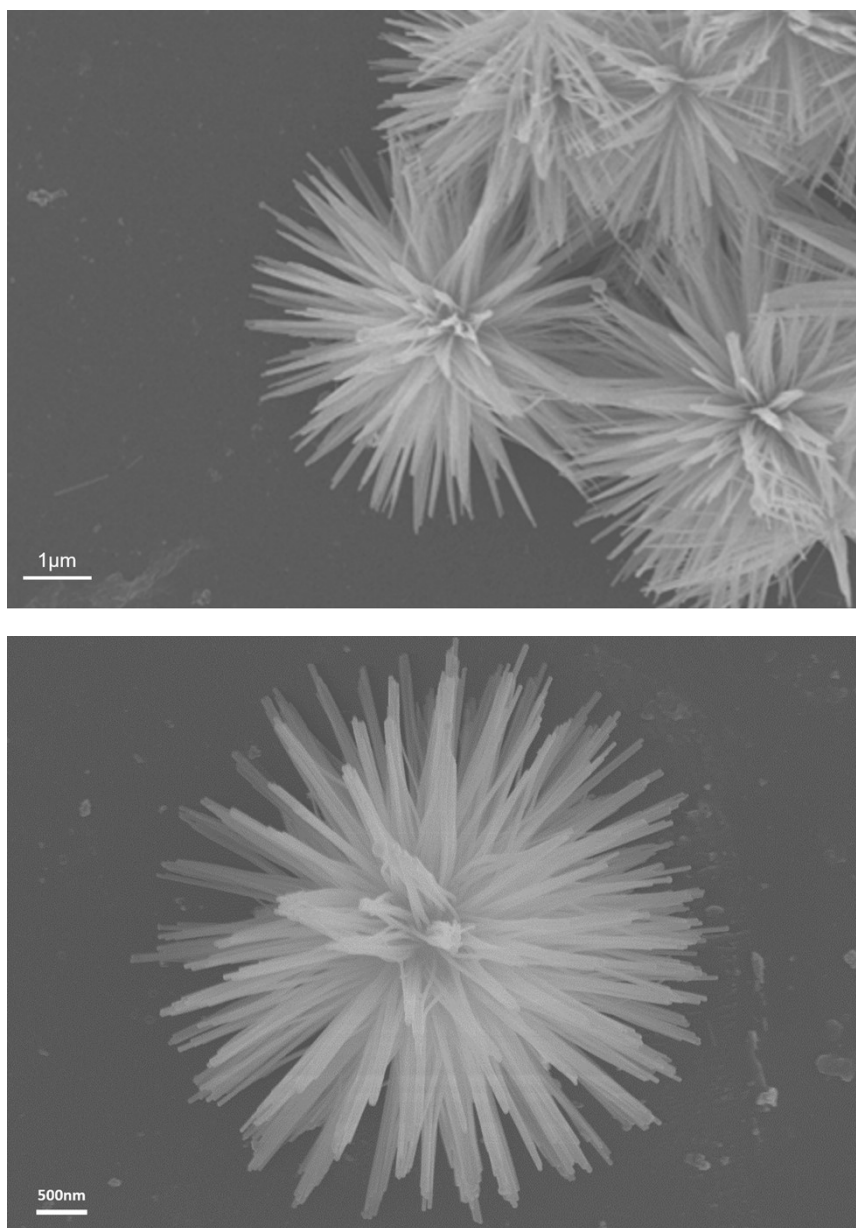
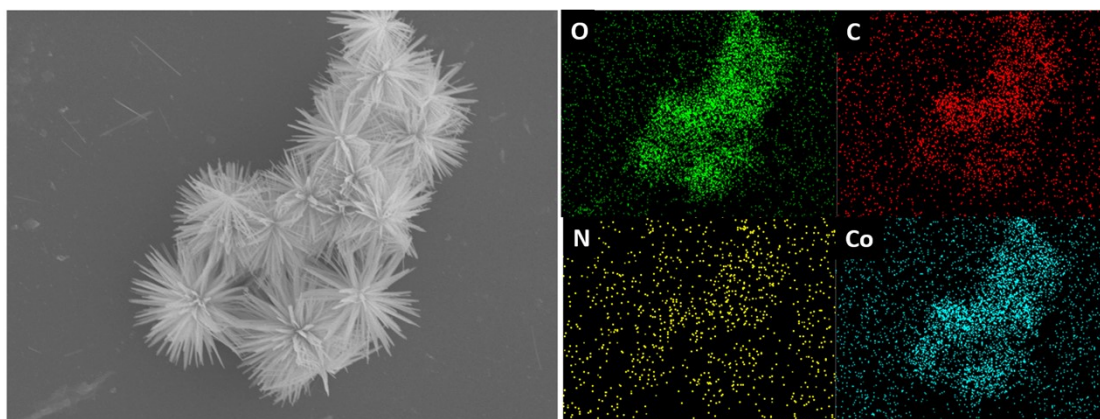
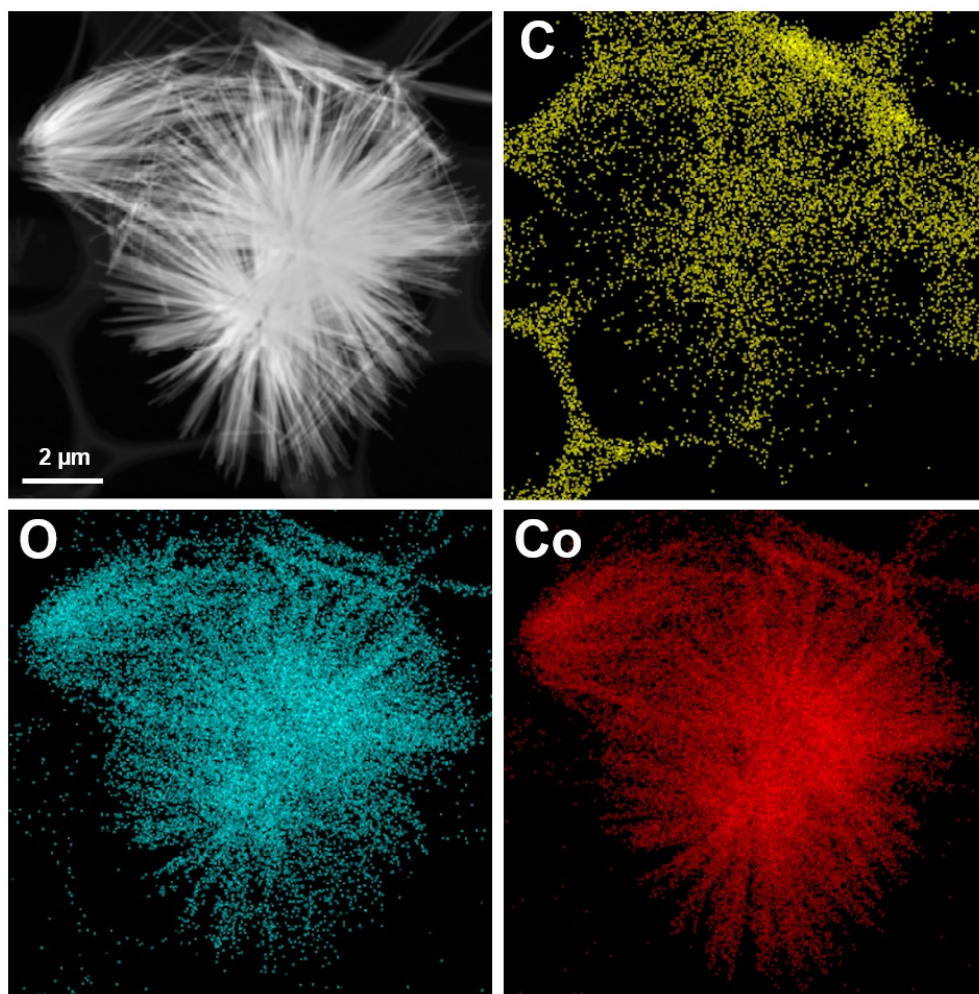


Fig. S1 SEM characterization of metal-organic precursor before calcination



| Distribution diagram Total spectrum diagram |       |
|---------------------------------------------|-------|
| element                                     | Wt%   |
| C                                           | 27.05 |
| N                                           | 3.77  |
| O                                           | 33.63 |
| Co                                          | 35.56 |

Fig. S2 EDS characterization of metal-organic precursor before calcination and table of contents of each elements



| Distribution diagram Total spectrum diagram |       |
|---------------------------------------------|-------|
| element                                     | Wt%   |
| C                                           | 15.33 |
| O                                           | 3.46  |
| Co                                          | 81.22 |

Fig. S3 EDS characterization of Co/C-550 and table of contents of each elements

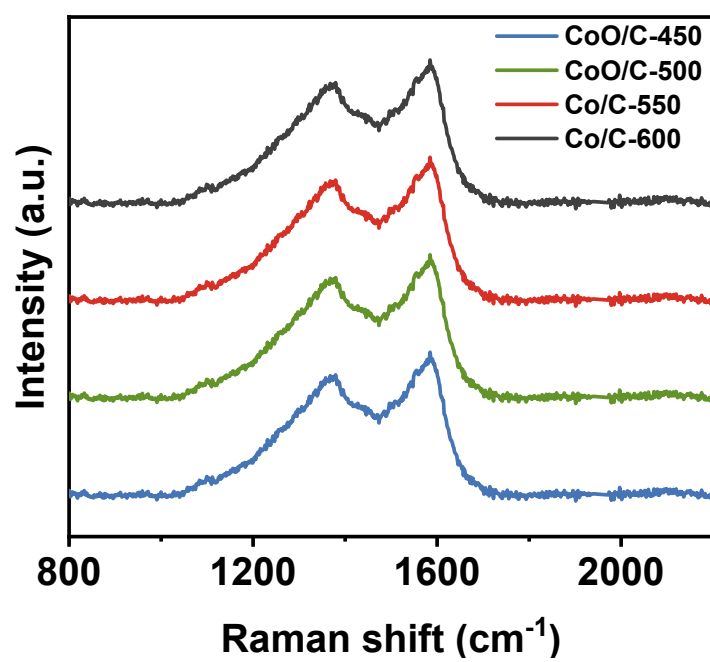


Fig. S4 Raman maps of dendritic composites calcinated at different temperatures

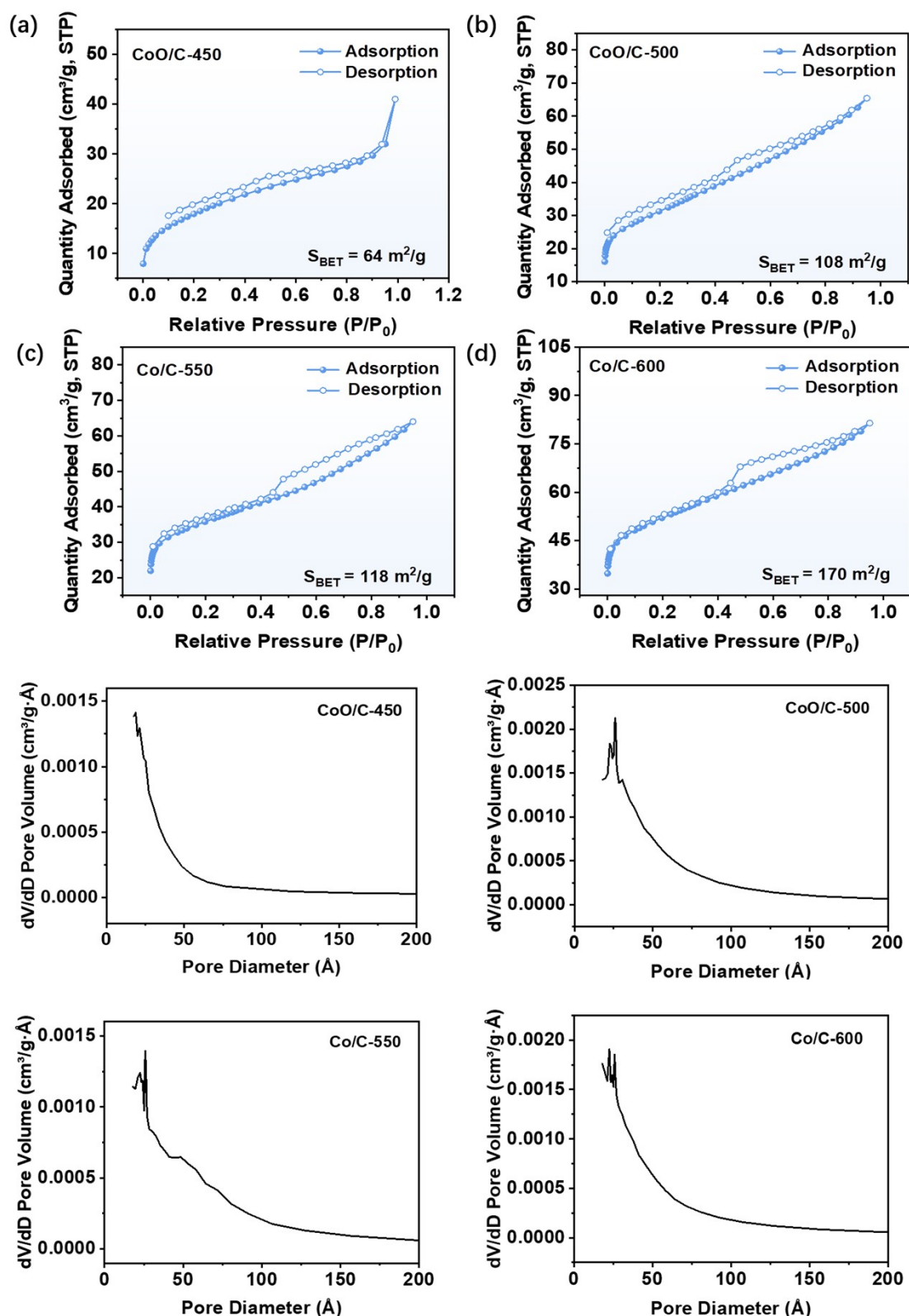


Fig. S5  $N_2$  adsorption-desorption isotherms and pore-size distributions derived from the adsorption branch by the BJH method of dendritic composites.

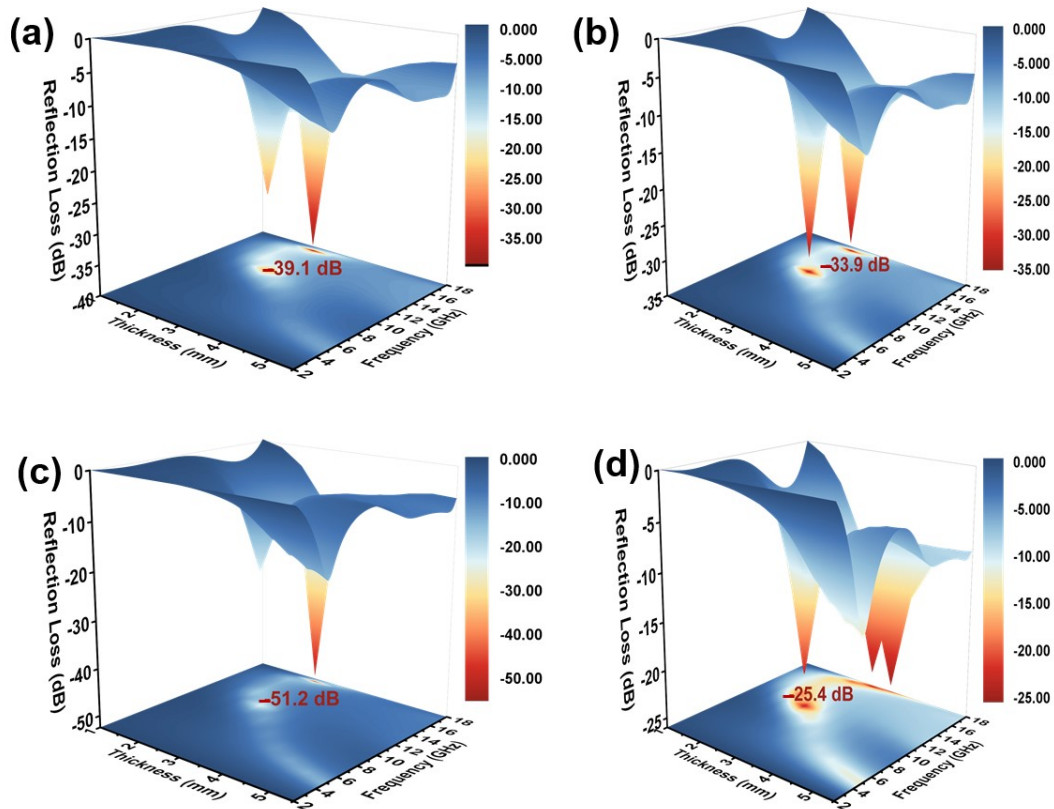


Fig. S6 3D plots of RL values of dendritic composites

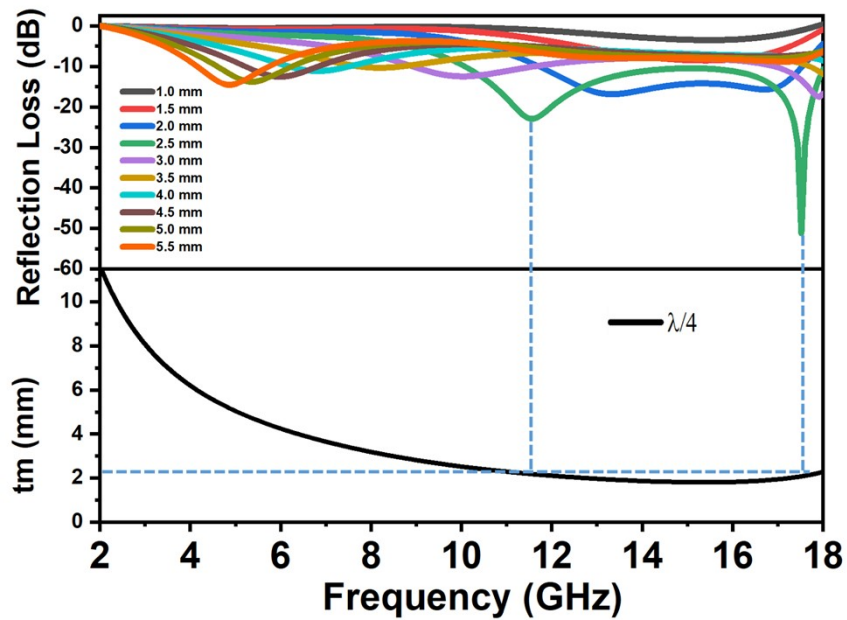


Fig. S7 The relationship between thickness and peak frequency of Co/C-550 derived from the quarter-wavelength cancellation model.