

## Supporting Information

# Optimizing size-dependent dielectric properties of metal-organic framework-derived Co/C composites for highly efficient microwave absorption

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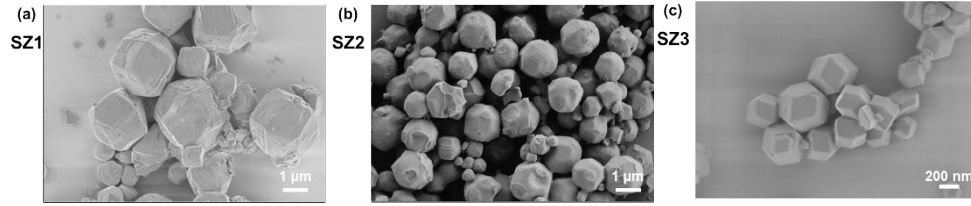
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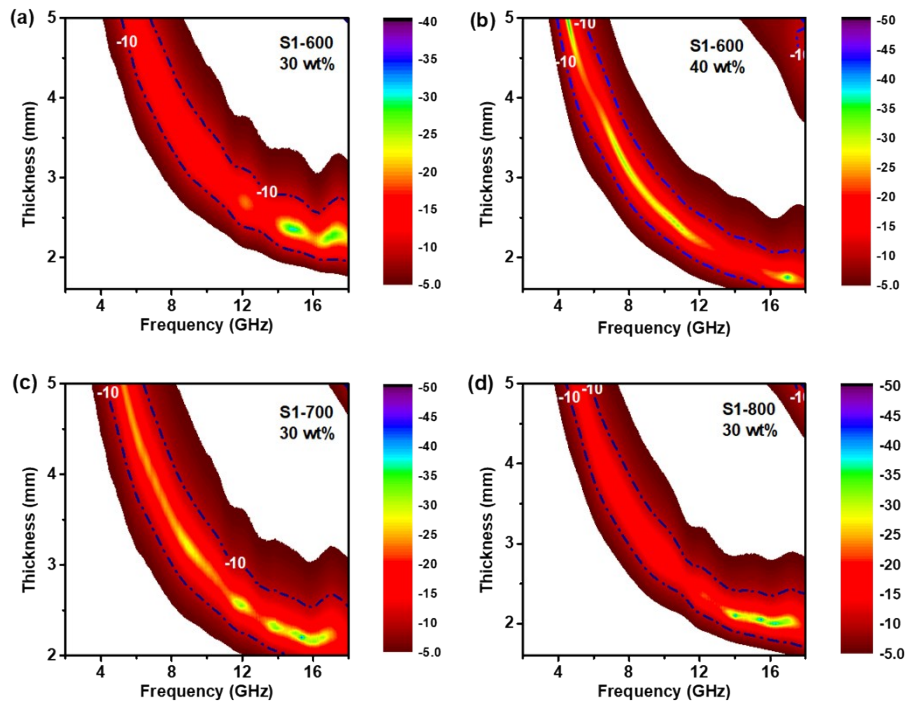
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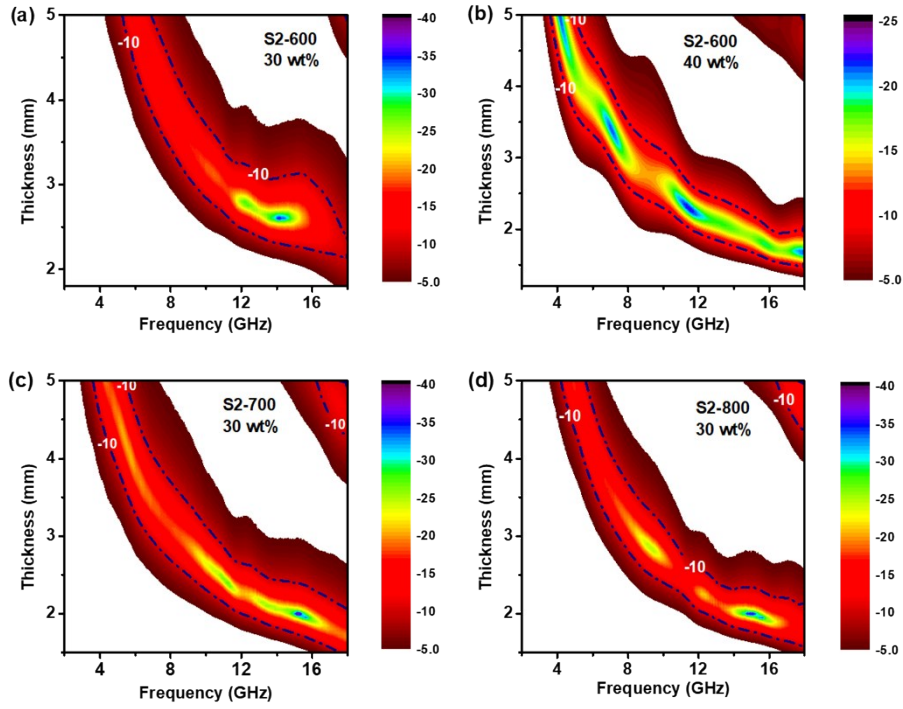
Email: hailinsu@hfut.edu.cn; zzhhxxbb@126.com; zhgl@red-mag.com.cn



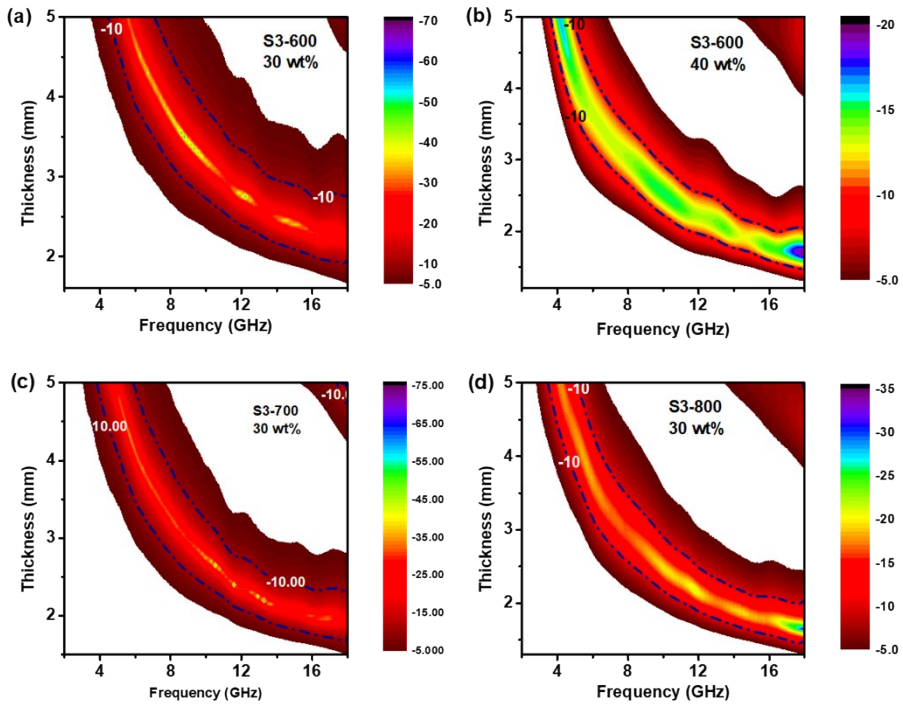
**Fig. S1** SEM images of (a) SZ1, (b) SZ2 and (c) SZ3.



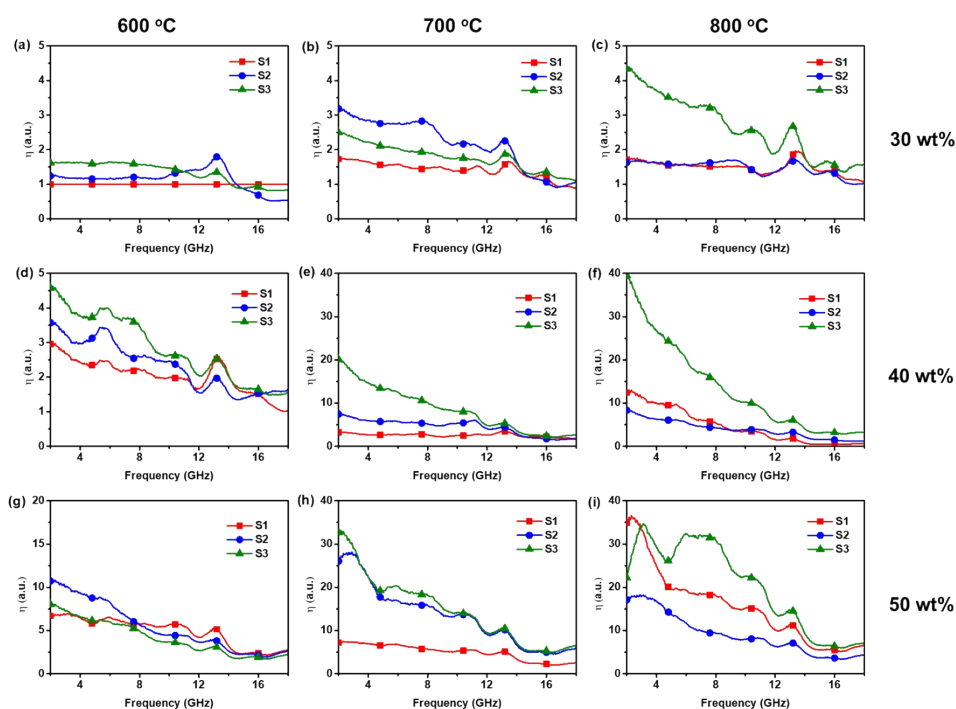
**Fig. S2** Reflection loss contour map of (a) S1-600 with filling ratio of 30 wt%, (b) S1-600 with filling ratio of 40 wt%, (c) S1-700 with filling ratio of 30 wt% and (d) S1-800 with filling ratio of 30 wt%.



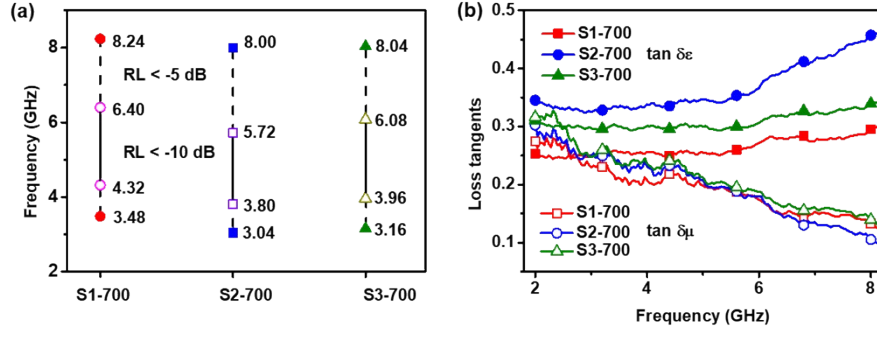
**Fig. S3** Reflection loss contour map of (a) S2-600 with filling ratio of 30 wt%, (b) S2-600 with filling ratio of 40 wt%, (c) S2-700 with filling ratio of 30 wt% and (d) S2-800 with filling ratio of 30 wt%.



**Fig. S4** Reflection loss contour map of (a) S3-600 with filling ratio of 30 wt%, (b) S3-600 with filling ratio of 40 wt%, (c) S3-700 with filling ratio of 30 wt% and (d) S3-800 with filling ratio of 30 wt%.



**Fig. S5** Ratios of electric conductivity ( $\eta$ ) for Co/C composites at filling ratio of 30 wt% obtained at: (a) 600 °C, (b) 700 °C, (c) 800 °C; at filling ratio of 40 wt% obtained at: (d) 600 °C, (e) 700 °C, (f) 800 °C; at filling ratio of 50 wt% obtained at: (g) 600 °C, (h) 700 °C, (i) 800 °C on the basis of S1-600 at filling ratio of 30 wt%.



**Fig. S6** (a) Effective absorption bandwidth of S1-700, S2-700 and S3-700 (solid line for reflection loss value less than -10 dB and dash line for reflection loss value less than -5 dB). (b) Loss tangents of S1-700, S2-700 and S3-700.