Supporting information

Ultrathin High-Performance Electromagnetic Wave Absorbers with Facilely Fabricated Hierarchical Porous Co/C Crabapples

Nannan Wu,[a,c] Chang Liu,[a] Dongmei Xu,[b] Jiurong Liu,*[,a]

Wei Liu,[b] Hu Liu,[c,d] Jiaoxia Zhang,[c,e] Wei Xie,[f] and Zhanhu Guo*[c]

[a] Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials, Ministry of Education and School of Materials Science and Engineering, Shandong University, Jinan, Shandong 250061, China

[b] State Key Laboratory of Crystal Materials, Shandong University, Shandong 250100, China

[c] Integrated Composites Laboratory (ICL), Department of Chemical & Biomolecular Engineering, University of Tennessee, Knoxville, TN 37996, USA.

[d] Key Laboratory of Materials Processing and Mold (Zhengzhou University), Ministry of Education; National Engineering Research Center for Advanced Polymer Processing Technology, Zhengzhou University, Zhengzhou, 450002, China

[e] School of Material Science and Engineering, Jiangsu University of Science and Technology, Zhenjiang, Jiangsu, 212003, China

[f] Key Laboratory of Lightweight and Reliability Technology for Engineering Vehicle, Education Department, Changsha University of Science & Technology, Changsha, Hunan, 410114, China

*Corresponding author.

E-mail address: jrliu@sdu.edu.cn (J. Liu); zguo10@utk.edu (Z. Guo)

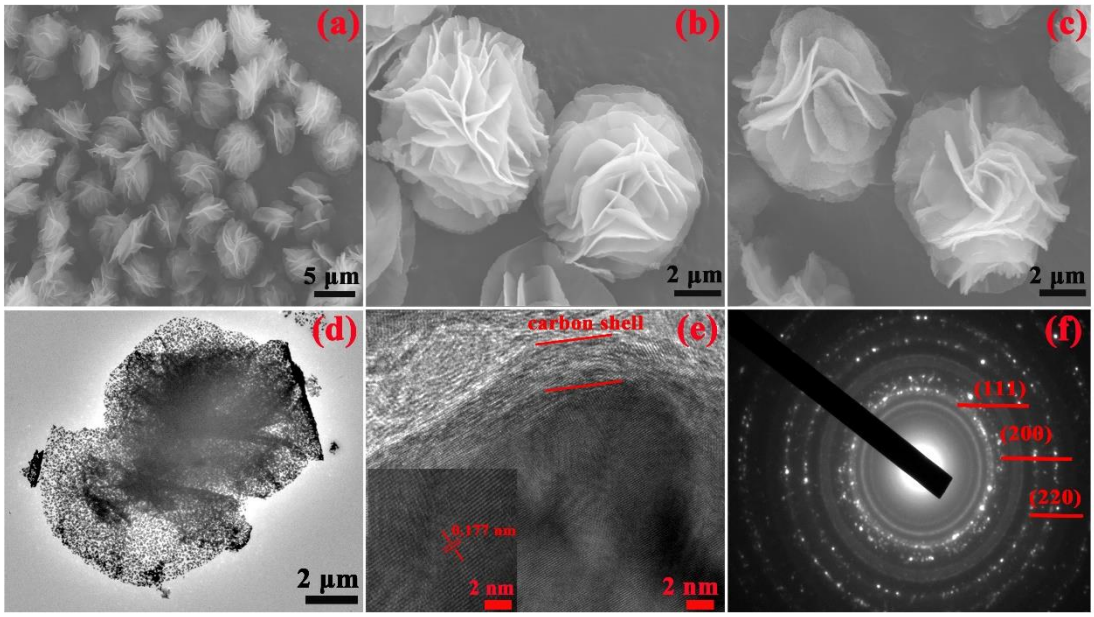

Fig. S1 SEM images of the as-synthesized (a, b) α-$Co(OH)_2$ precursor, (c) Co_3O_4 intermediate. (d) Low magnification TEM image of hierarchical porous Co/C crabapples. (e) TEM images of Co NPs and the inset is a corresponding HR-TEM image. (f) SAED pattern of hierarchical porous Co/C crabapples.

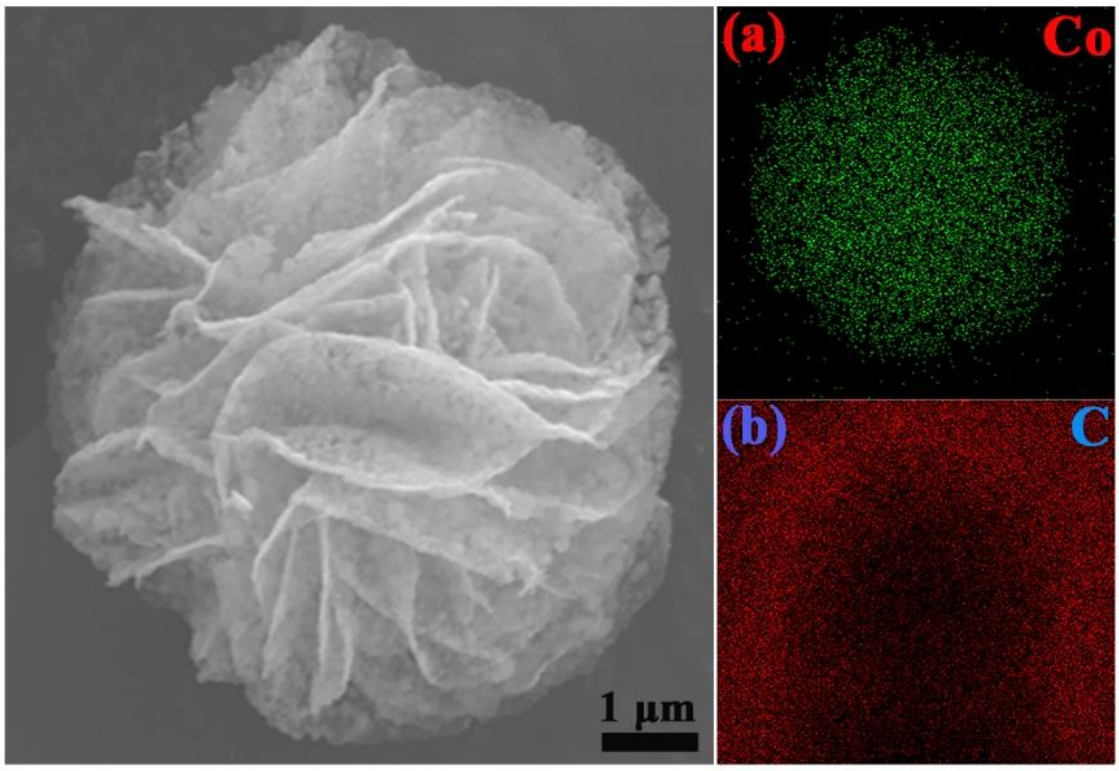

Fig. S2 Elemental mappings of (a) Co, (b) C for hierarchical porous Co/C crabapples.

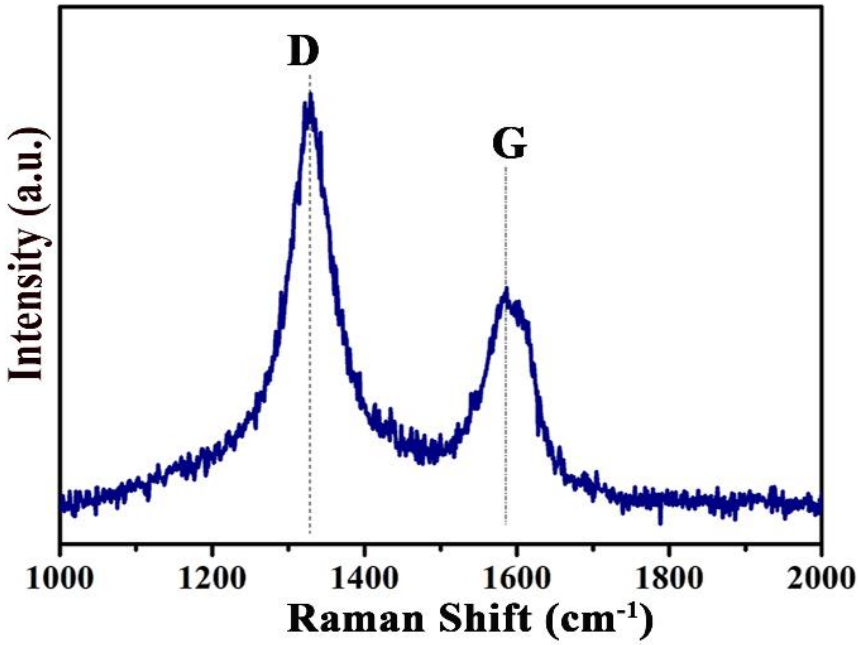

Fig. S3 Raman spectrum of hierarchical porous Co/C crabapples.

Table S1. I_D/I_G value of previously reported magnetic carbon materials and this work.

Materials	Carbon type	I_D/I_G	Ref.
Co/C nanoparticles	amorphous	1.16	1
Ni/C microspheres	amorphous	1.2	2
CNF-Co composites	graphite	0.94	3
Fe_3O_4@C microspheres	amorphous	0.92	4
Fe_3O_4/C nanorings	amorphous	1.72	5
porous Co/C nanocomposites	graphite	1.1	6
carbon@Fe@Fe_3O_4 nanospheres	amorphous	1.03	7
Fe_3O_4/C nanospindles	amorphous	1.22	8
Co/C crabapples	amorphous	1.86	this work

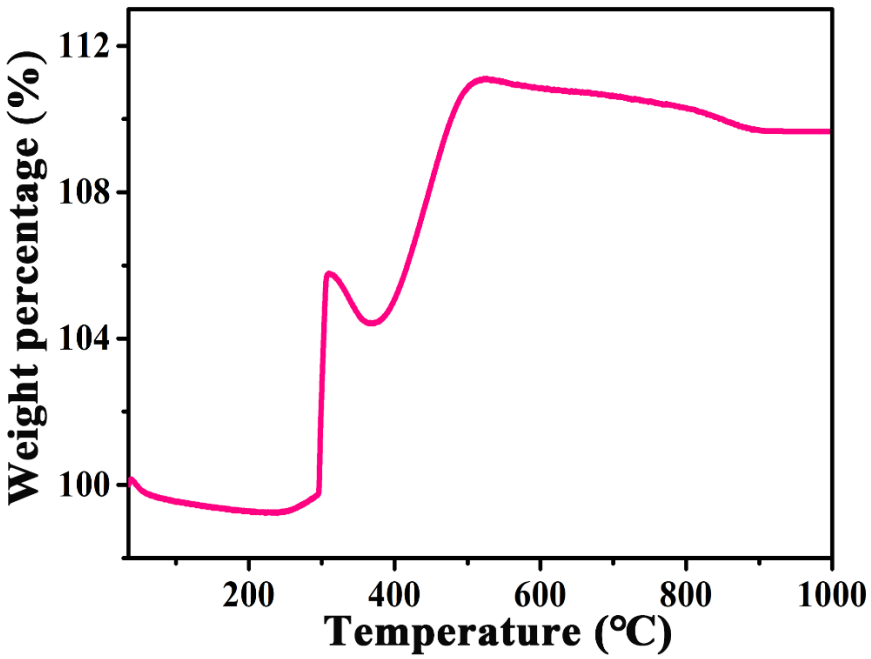

Fig. S4 TGA curves of the hierarchical porous Co/C crabapples measured in air from room temperature to 1000 ℃.

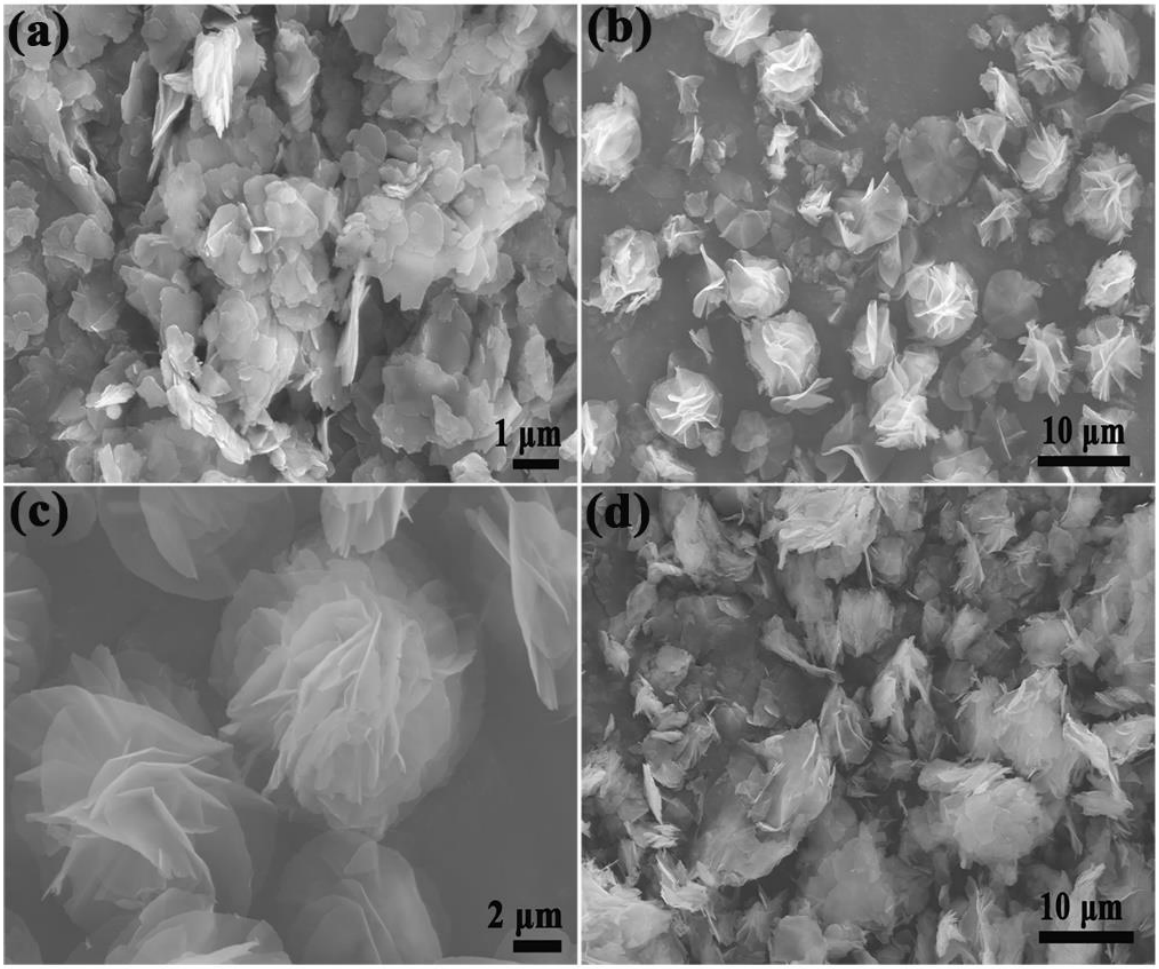

Fig. S5 SEM images of the α-$Co(OH)_2$ precursors with different reaction time of (a) 1 h, (b) 2 h, (c) 3 h, and (d) 10 h.

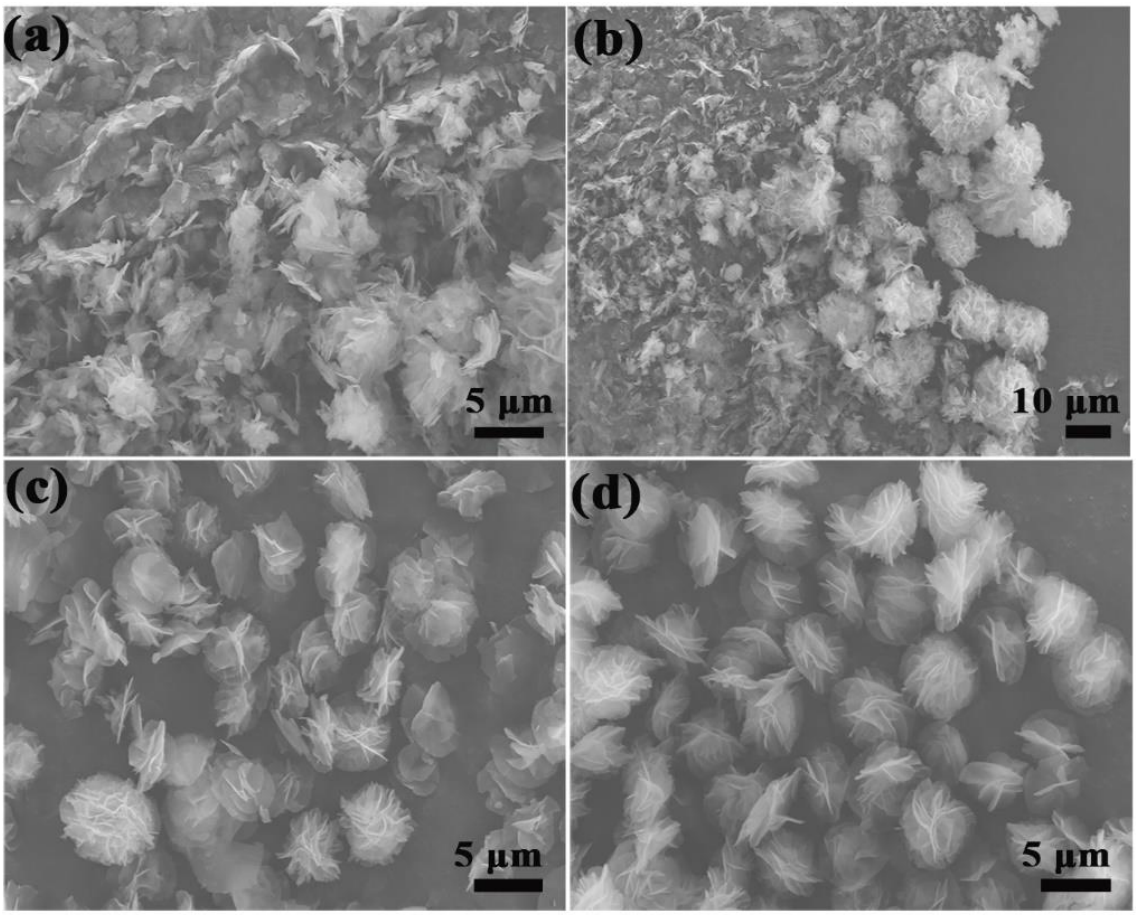

Fig. S6 SEM images of the α-$Co(OH)_2$ precursors with PVP addition of (a) 0 g, (b) 0.5 g, (c) 1 g, and (d) 2.0 g.

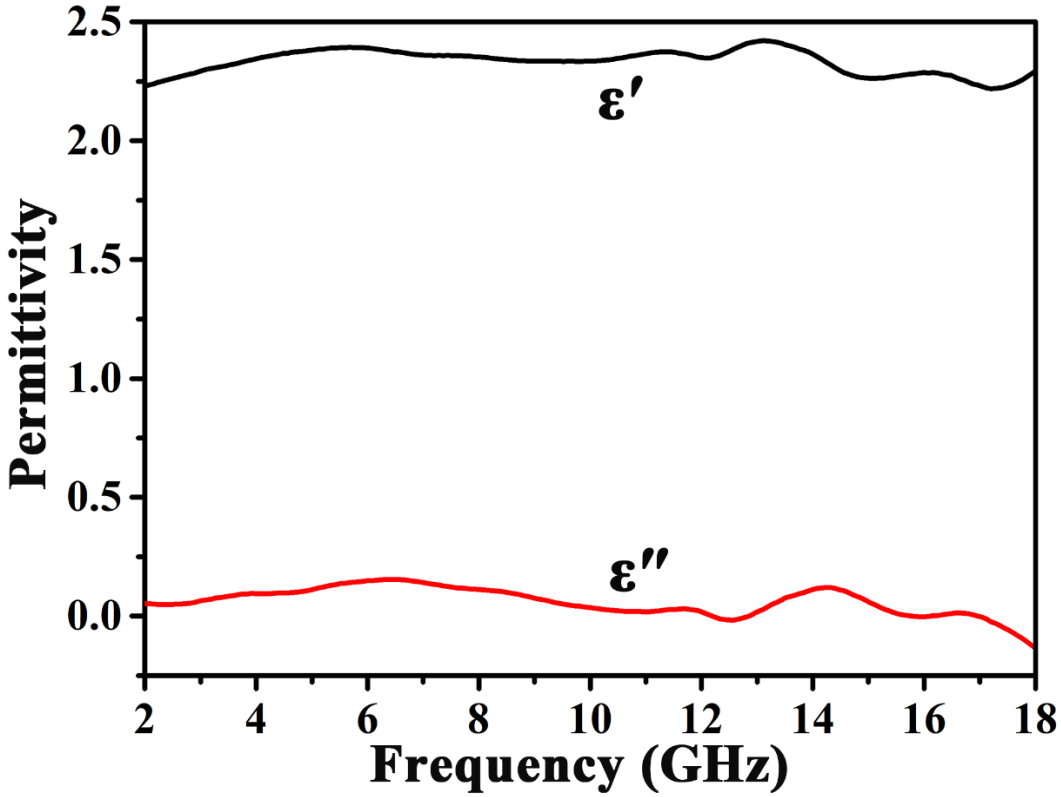

Fig. S7 Frequency dependence of permittivity for the acid-treated Co/C crabapples.

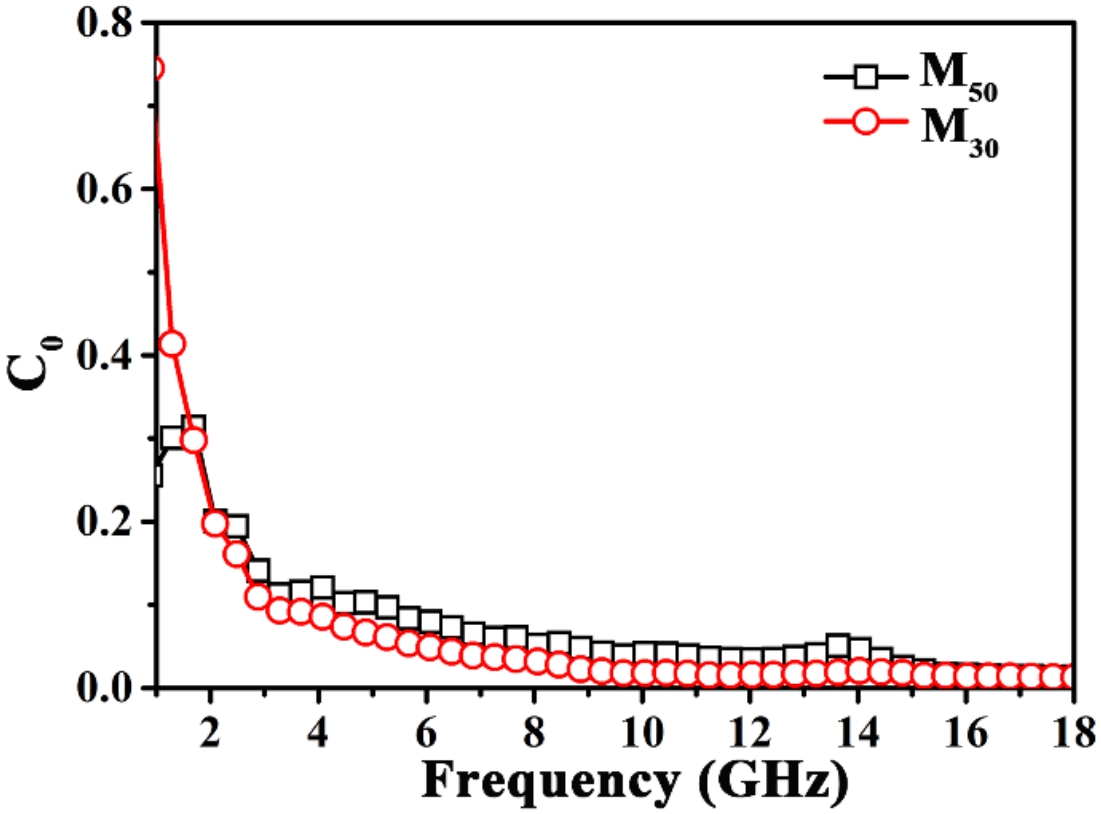

Fig. S8 Frequency dependence of C_0 values for sample M_{50} and M_{30}.

References

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