Supporting Information

Corn Silk-derived Biomass Carbon Materials for Low-Frequency Microwave Absorption and Energy Storage

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Table S1 Comparison of microwave absorption properties of typical biomass-derived absorbers.

MA Materials	Filling ratio(wt.%)	RL_{min} (dB)	d_{RLmin} (mm)	Frequency (GHz)	EAB (GHz)	d_{EAB} (mm)
Fe_3O_4/bagasse waste-derived carbon fiber	30	−48.2	1.9	15.6	5.1	1.9
Eggshell membrane-derived carbon fiber/$CoFe_2O_4$	30	−49.16	2.5	9.2	-	-
Walnut shells-derived carbon	70	−42.4	2.0	8.88	2.24	1.5
Loofah-sponge-derived carbon/$CoFe_2O_4$	50	−43.8	3.0	8.3	-	-
Aligned polyaniline/Fe_3O_4/loofah-derived carbon	30	−44.8	2.7	10.67	4.69	2.7
Straw waste-derived carbon	10	−37	2.5	12.1	8.8	2.5
MnO/cube teak wood-derived carbon	30	−51.6	2.47	10.4	-	-

Co_3Fe_7/shaddock peel-derived carbon	8	−50.6	2.55	10.5	5.3	1.7
BC8 this work	30	−75	4.5	6.88	6.64	2.6
BC10 this work	30	−55.4	4.51	7.2	6.32	2.8
BC12 this work	30	−55.7	3.9	7.2	6.6	2.3

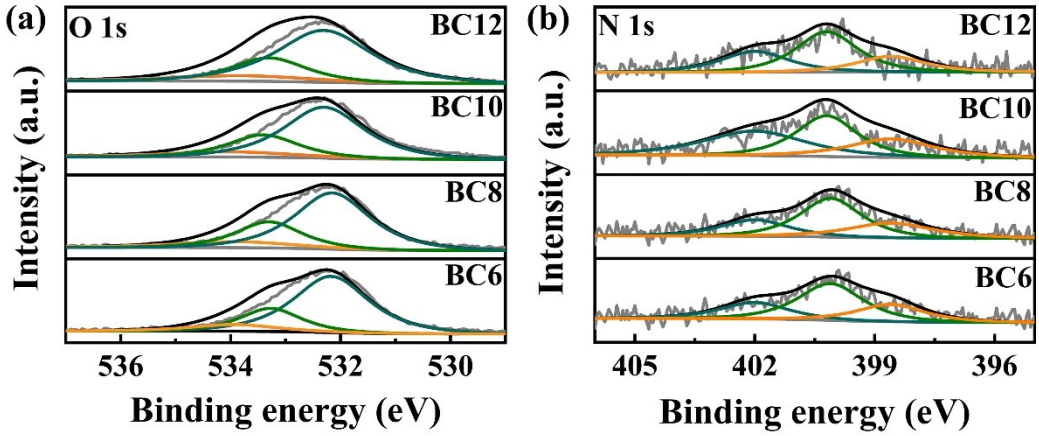

Fig. S1 XPS patterns in (a) O 1s and (b) N 1s of BC6, BC8, BC10 and BC12.

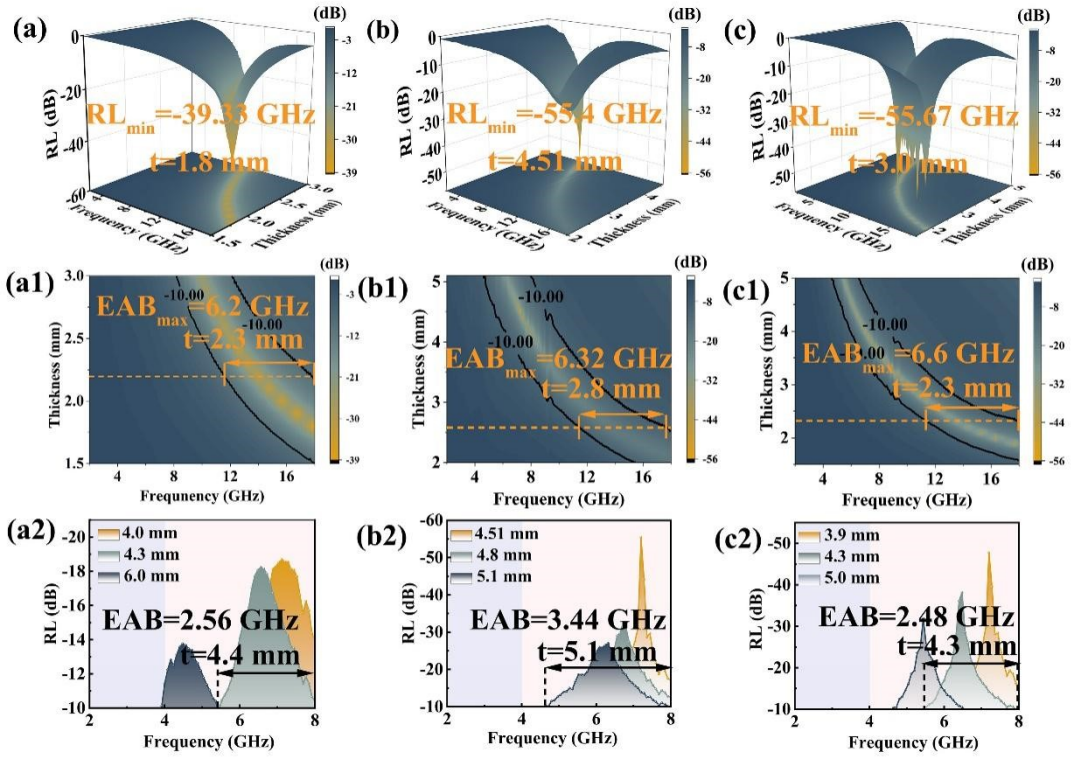

Fig. S2 RL of 3D, 2D and contour line spectra for (a, a1, a2) BC6, (b, b1, b2) BC10, and (c, c1, c2) BC12, respectively.

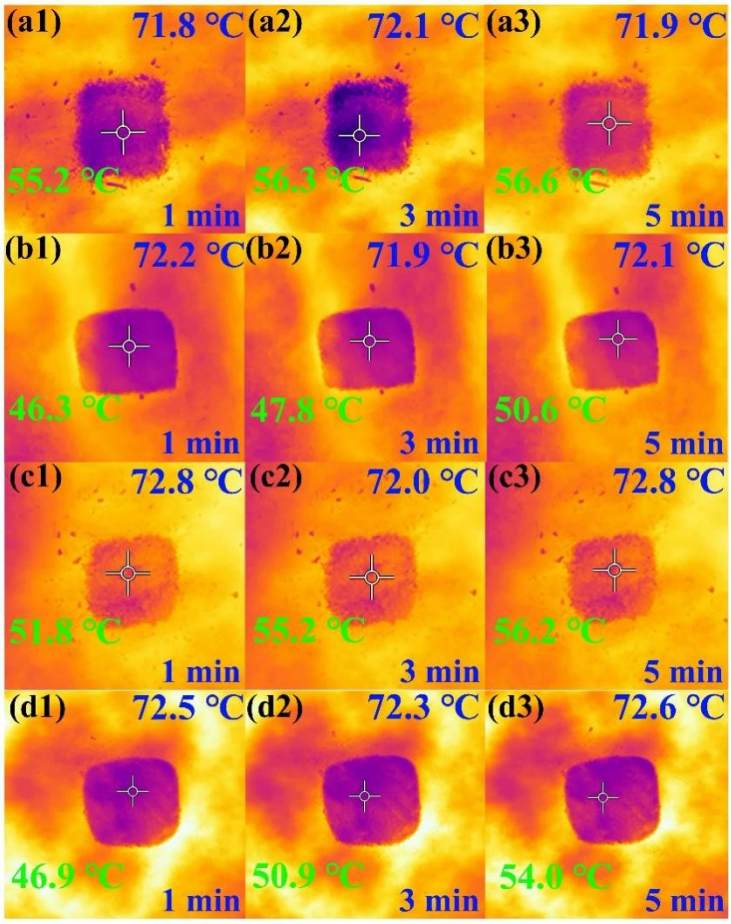

Fig. S3 Thermal infrared images for (a, a1, a2) BC6, (b, b1, b2) BC8, (c, c1, c2) BC10, and (d, d1, d2) BC12, respectively.

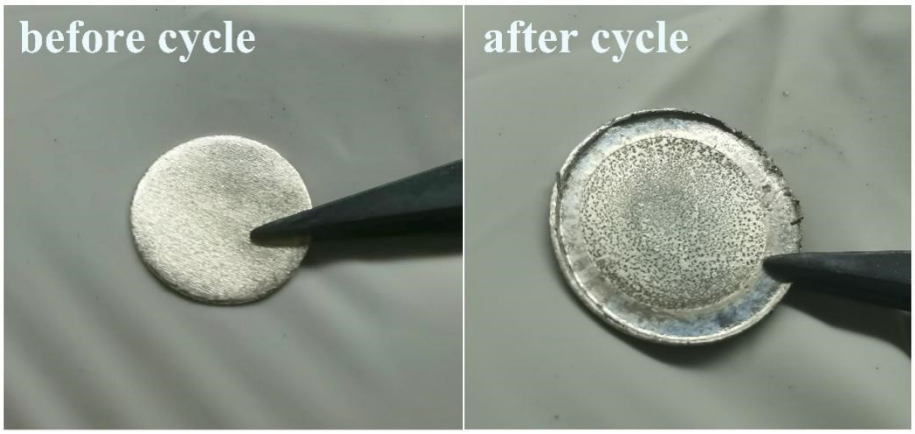

Fig S4 Surface images of the Li cathode before and after cycling.