Supporting Information

Controlled Preparation of Interconnected 3D Hierarchical Porous Carbons from Bacterial Cellulose-based Composite Monoliths for Supercapacitors

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Content:

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Fig. S5 N_2 adsorption/desorption isotherms of EVOH/BC(65%)-800-2.5 (a), EVOH/BC(50%)-800-2.5 (b) and EVOH/BC(40%)-800-2.5 (c).

Fig. S6 CV curves at a scan rate of 50 mV s^{-1} (a), GCD curves at a current density of 0.5 A g^{-1} (b) of BC-800-2.5, EVOH(65%)-800-2.5, and EVOH/BC(65%)-800-2.5.

Fig. S7 CV curves at a scan rate of 50 mV s^{-1} (a), GCD curves at a current density of 0.5 A g^{-1} (b) of EVOH/BC(65%)-800-1, EVOH/BC(65%)-800-2, EVOH/BC(65%)-800-2.5 and EVOH/BC(65%)-800-3.

Fig. S8 SEM images of the EVOH/BC(65%)-800-2.5 electrode before and after 10,000 charging and discharging cycles.

Fig. S9 Specific capacitance and capacitance retention at different current densities of EVOH/BC(65%)-800-2.5// EVOH/BC(65%)-800-2.5 symmetric supercapacitor (two-electrode).

Table S1 XPS and elemental analysis of EVOH/BC(65%)-700-2.5, EVOH/BC(65%)-800-2.5, and EVOH/BC(65%)-900-2.5.

Table S2 The comparison of electrochemical performance between EVOH/BC(65%)-800-2.5 and the biomass-carbon electrodes reported in the literatures.

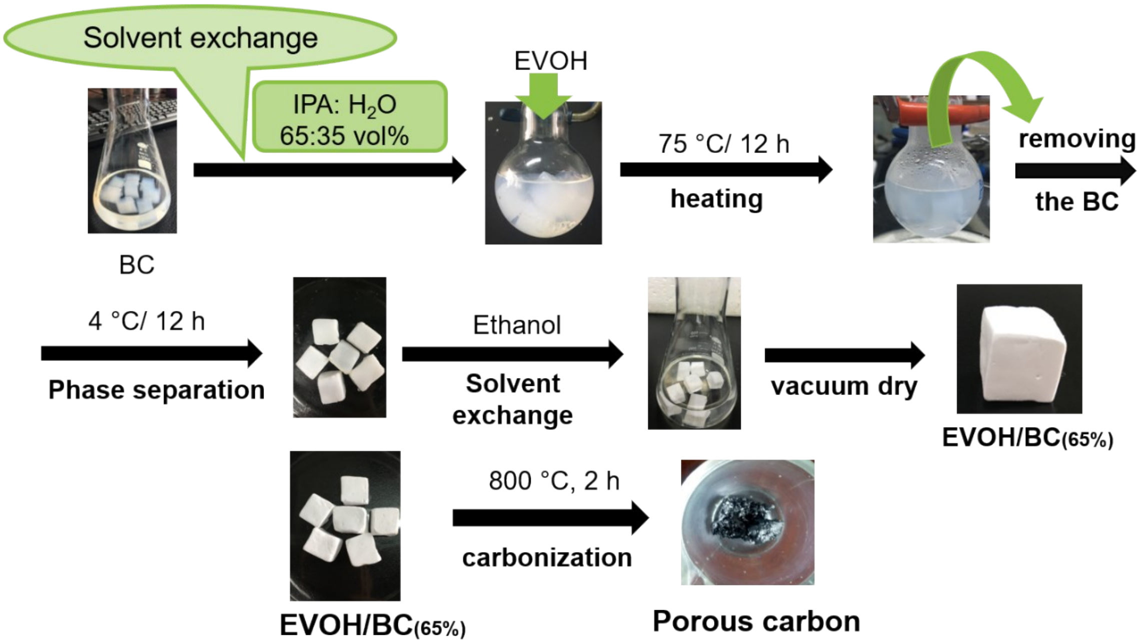


Fig. S1 Fabrication process of EVOH/BC composite monolith and porous carbon from EVOH/BC(65%).

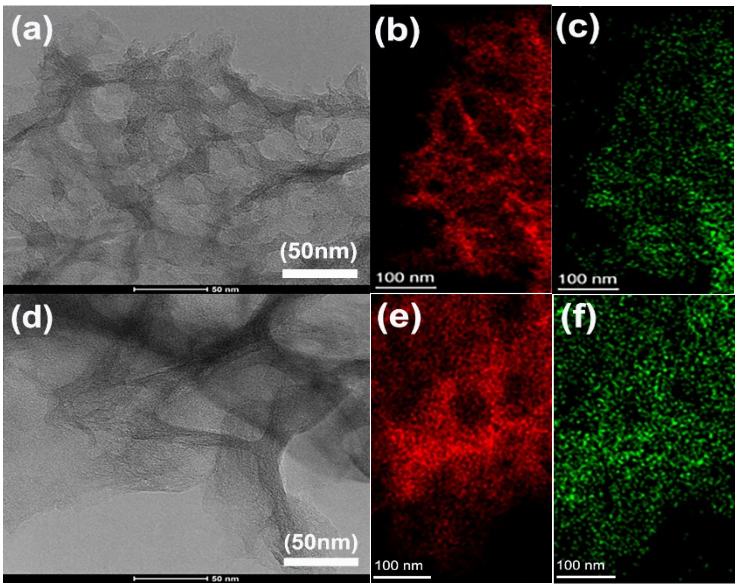


Fig. S2 TEM images (a, d) and corresponding elemental mapping images of C (b, e) and O (c, f) of EVOH/BC$_{(50\%)}$-800-2.5 (a-c) and EVOH/BC$_{(40\%)}$-800-2.5(d-f).

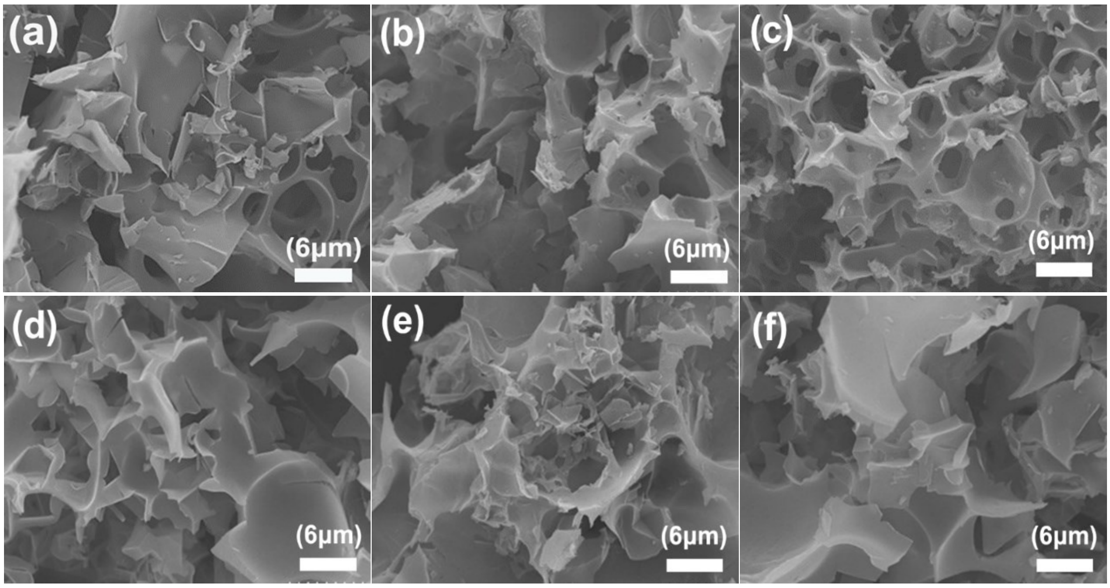


Fig. S3 SEM images of the of the EVOH/BC(65%)-800-1(a), EVOH/BC(65%)-800-2(b), EVOH/BC(65%)-800-2.5(c), EVOH/BC(65%)-800-3(d), EVOH/BC(65%)-700-2.5(e), and EVOH/BC(65%)-900-2.5(f).

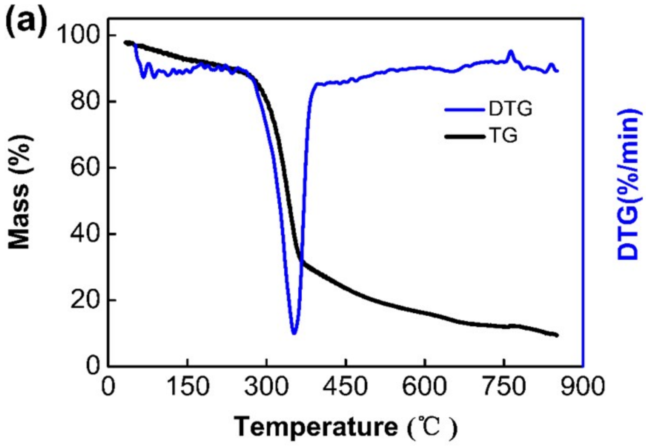
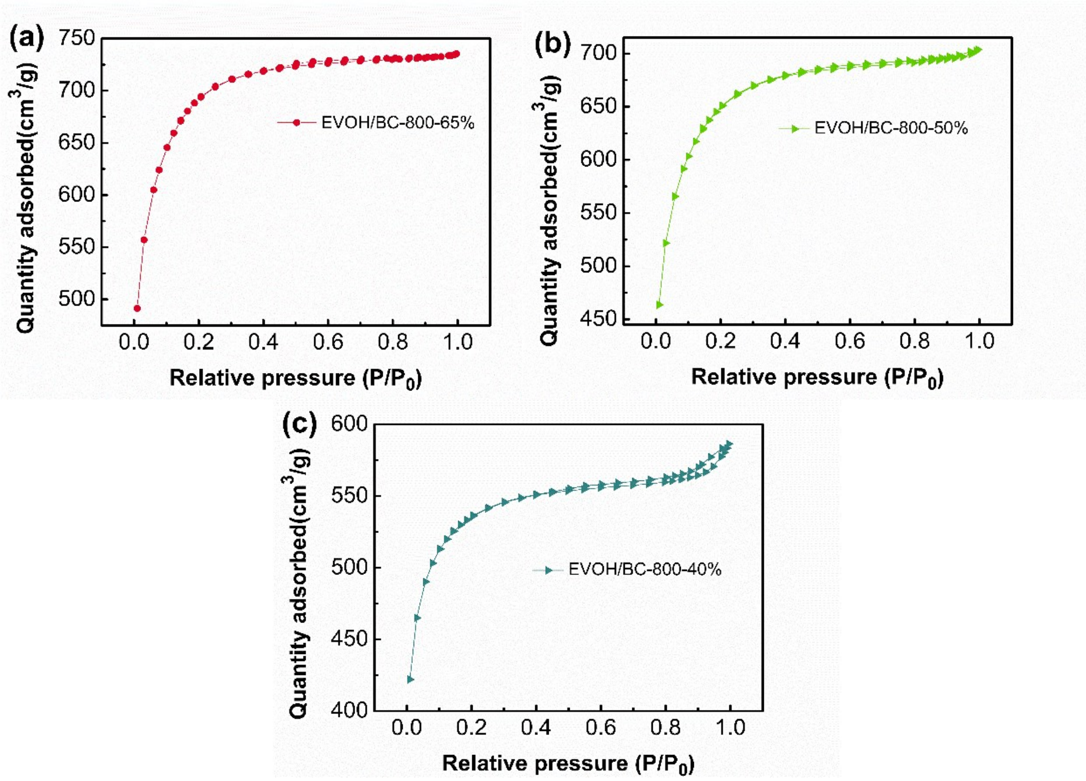


Fig. S4 TG and DTG curves of EVOH/BC(65%) monolith under N_2 atmosphere.



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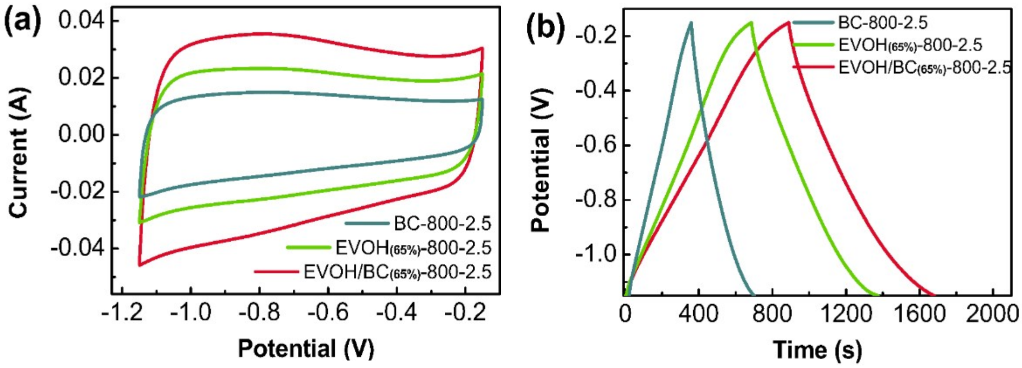

Fig. S6 CV curves at 50 mV s^{-1} (a), GCD curves at 0.5 A g^{-1} (b) of BC-800-2.5, EVOH(65%)-800-2.5, and EVOH/BC(65%)-800-2.5.

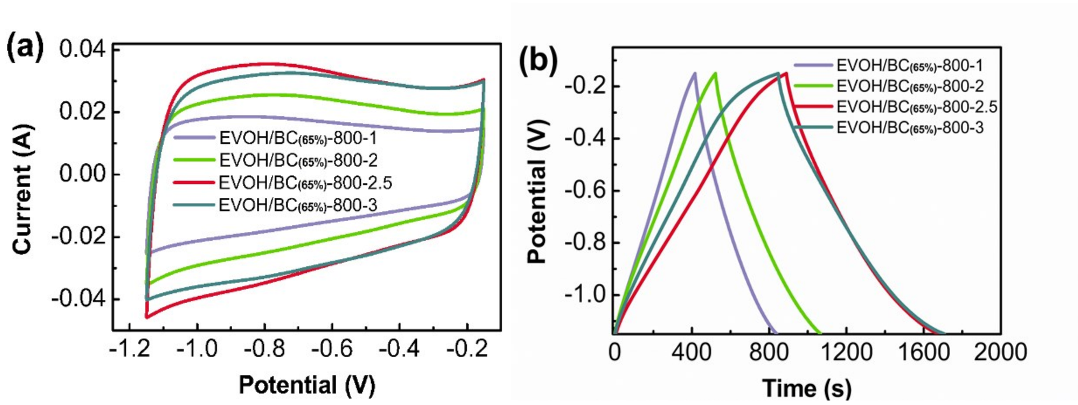

Fig. S7 CV curves at a scan rate of 50 mV s^{-1} (a) and GCD curves at a current density of 0.5 A g^{-1} (b) of EVOH/BC(65%)-800-1, EVOH/BC(65%)-800-2, EVOH/BC(65%)-800-2.5 and EVOH/BC (65%)-800-3.

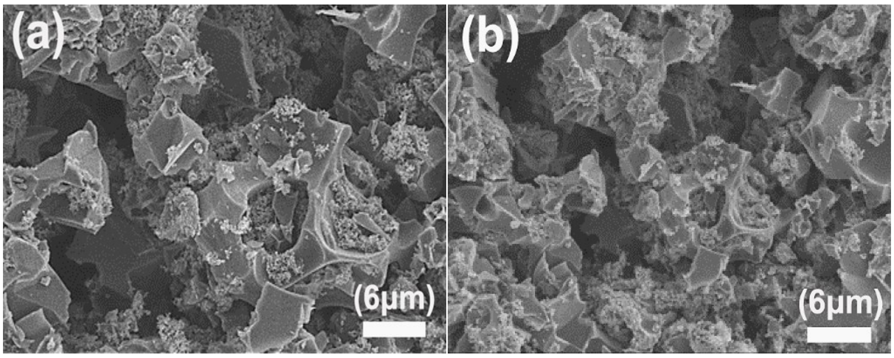

Fig. S8 SEM images of EVOH/BC(65%)-800-2.5 electrode before (a) and after (B) 10,000 charging and discharging cycles.

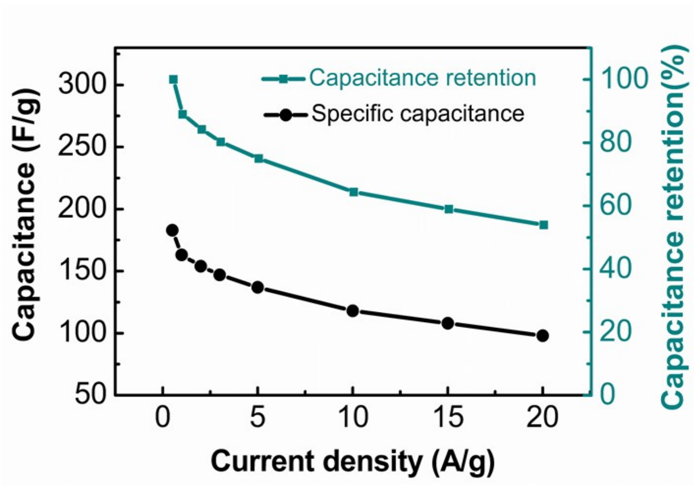

Fig. S9 Specific capacitance and capacitance retention at different current densities of EVOH/BC(65%)-800-2.5//EVOH/BC(65%)-800-2.5 symmetric supercapacitor (two-electrode system).

Table S1 XPS and elemental analysis of EVOH/BC(65%)-700-2.5, EVOH/BC(65%)-800-2.5, and EVOH/BC(65%)-900-2.5.

Sample	at.% by XPS		elemental analysis (wt.%)	
	C	O	C	O
EVOH/BC(65%)-700-2.5	86.78	13.22	87.23	12.77
EVOH/BC(65%)-800-2.5	90.01	9.99	90.93	9.07
EVOH/BC(65%)-900-2.5	91.67	8.33	92.92	7.08

Table S2 The comparison of electrochemical performance between EVOH/BC-800-2.5 and the biomass-carbon electrodes reported in the literatures.

Samples	Electrolyte	Current density ($A g^{-1}$)	Cs ($F g^{-1}$)	Current Density ($A g^{-1}$)	Capacitance retention	Ref.
Algae Microspheres	2 M KOH	1.0	353	20	92% after 10, 000 cycles	9
Medulla tetrapanacis	6 M KOH	1.0	251	1	95.2% after 10, 000 cycles	18
Peach gum	6 M KOH	0.5	369	20	95.1% after 10,000 cycles	46
Water chestnut	6 M KOH	0.5	346	1	97.6% after 5, 000 cycles	47
bagasse	6 M KOH	0.5	320	10	92.85%after 15, 000 cycles	51
soybean	6 M KOH	0.5	243.2	1	96.5% after 5, 000 cycles	53
chitosan	6 M KOH	0.5	250.5	10	107% after 5,000 cycles	55
Pine Needle	0.5 M H_2SO_4	0.5	236	2	110.7% after 5000 cycles	56
Perilla frutescens leaves	1 M Na_2SO_4	0.5	270	2	96.1% after 10, 000 cycles	57
jujube pit	6 M KOH	0.5	398	5	97% after 10,000 cycles	58
EVOH/BC(65%)-800-2.5	**6M KOH**	**0.5**	**420**	**5**	**99% after 5, 000 cycles**	**Our work**
EVOH/BC(65%)-800-2.5	**6M KOH**	**1**	**405**	**5**	**96.1% after 10, 000 cycles**	**Our work**