Supporting Information

Controllable Functionalized Carbon Fabric for High-Performance All-Carbon-Based Supercapacitors

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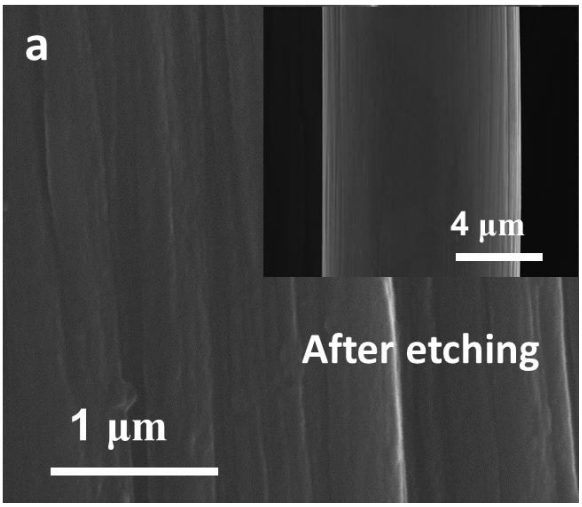

Figure S1. SEM image of CF after etching. Inset is the low resolution image.

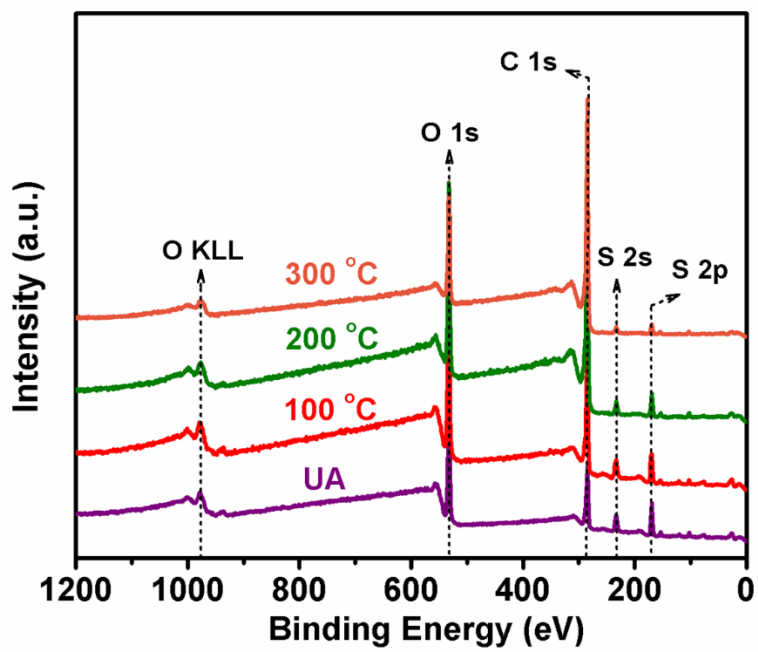

Figure S2. XPS spectra of FCF under different annealing temperatures.

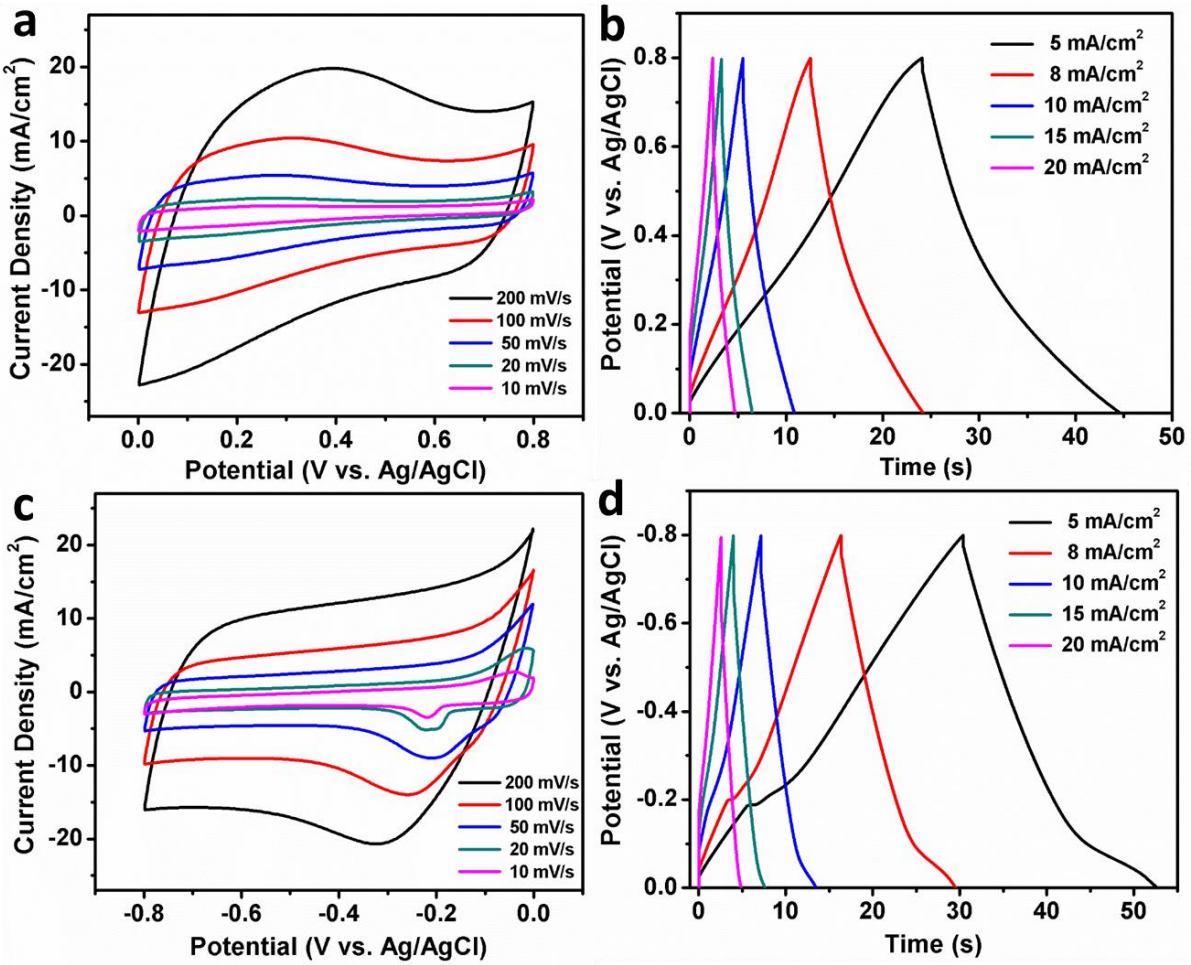

Figure S3. Electrochemical performance of 100 ^{o}C-annealed FCF electrode measured by a typical three-electrode configuration system. (a), (c) CV curves at different scan rates. (b), (d) Galvanostatic charge/discharge curves at different current densities.

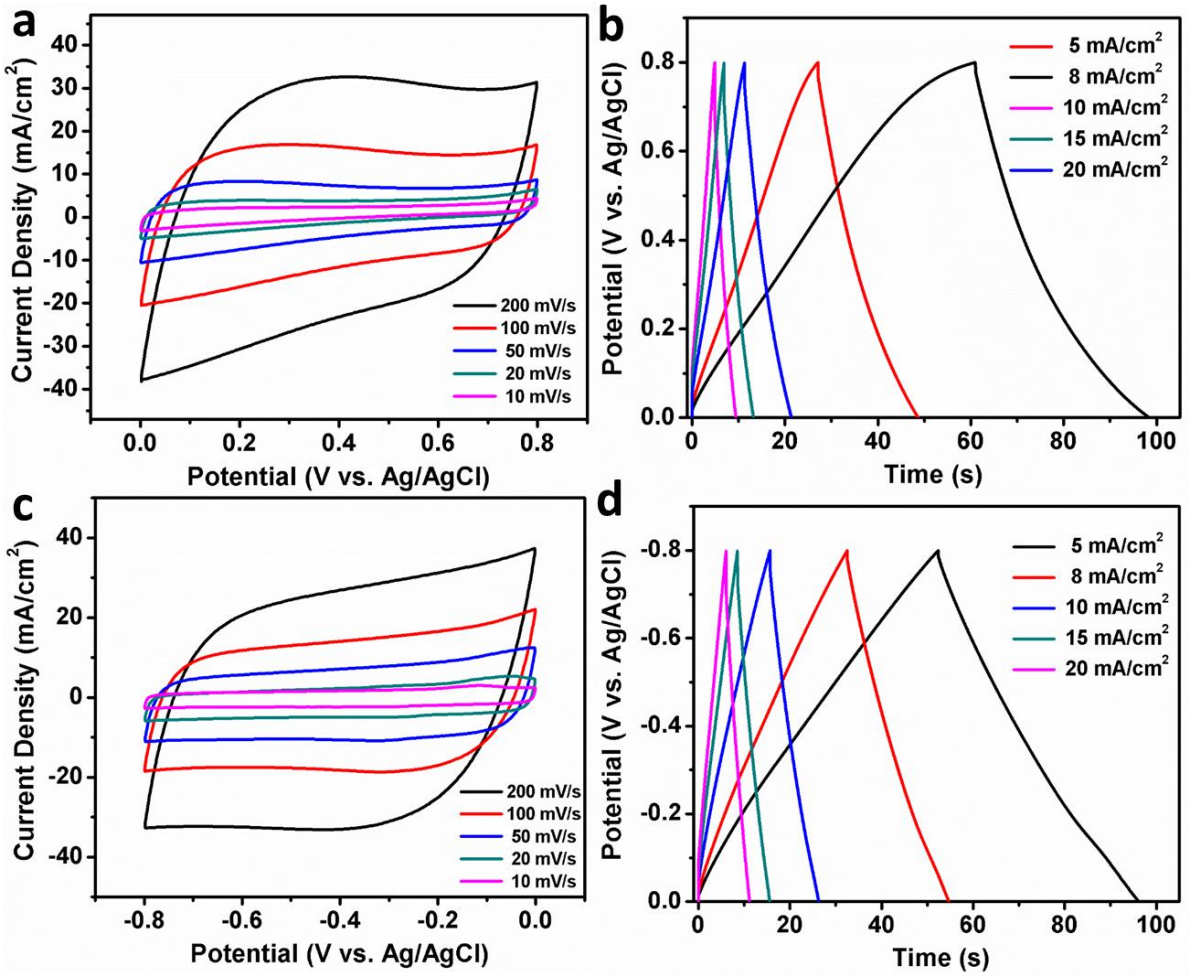

Figure S4. Electrochemical performance of 200 ^{o}C annealed-FCF electrode measured by a typical three-electrode configuration system. (a), (c) CV curves at different scan rates. (b), (d) Galvanostatic charge/discharge curves at different current densities.

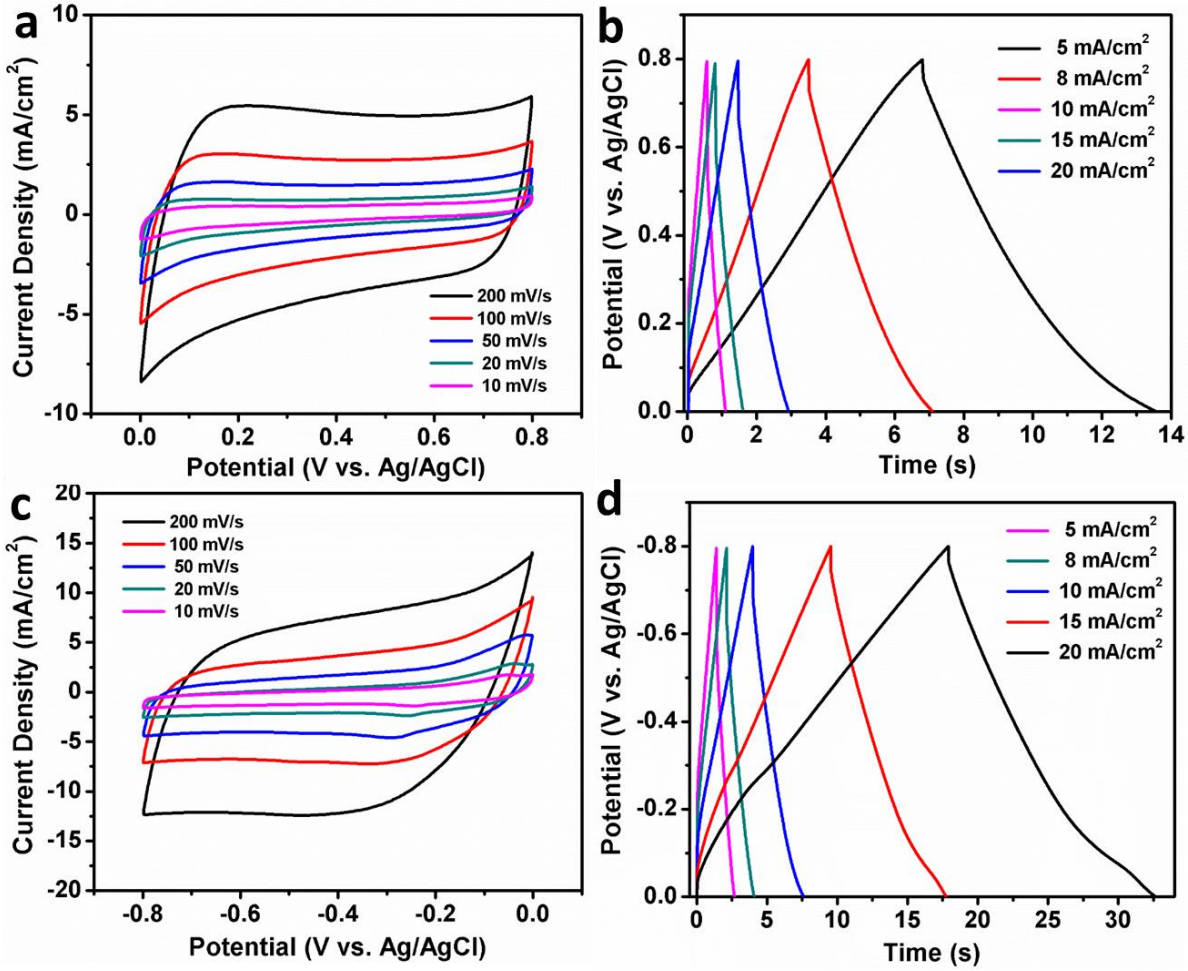

Figure S5. Electrochemical performance of 300 ^{o}C-annealed FCF electrode measured by a typical three-electrode configuration system. (a), (c) CV curves at different scan rates. (b), (d) Galvanostatic charge/discharge curves at different current densities.

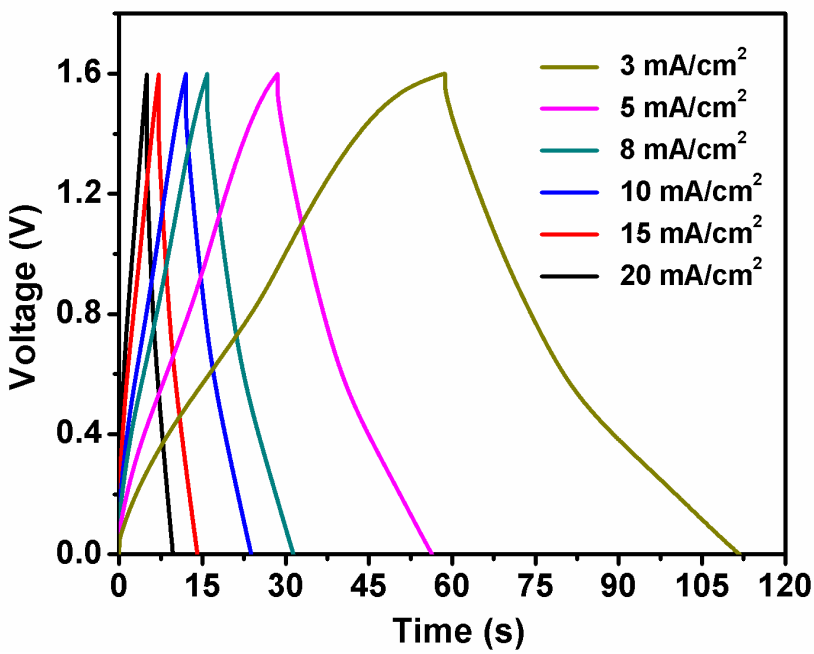

Figure S6. Galvanostatic charge/discharge curves of the solid-state SC device with 200 ^{o}C-annealed FCF electrodes.

Annealing temperature (^{o}C)	>COH (%)	>C=O (%)	–COOH (%)
100	16.31	1.8	5.67
200	9.26	10.29	6.87
300	6.87	12.16	1.01

Table S1 Contribution of functional groups extracted from XPS results for different annealing temperatures.

C_A [mF cm^{-2}]	C_V [F cm^{-3}]	E_V [mWh cm^{-3}]	P_V [W cm^{-3}]	Refs.
134.8	2.4	0.83	1.59	Present Work
25	/	0.05	1.0	[9]
26	0.325	0.04	0.0024	[11]
/	1.3	0.61	0.85	[14]
/	1.5	0.55	0.139	[38]

Table S2 Performance summary of recent reports about CF-based SCs.

"/" means the data were not given in the corresponding reference. C_A and C_V is the areal capacitance and volumetric capacitance of the device, respectively. E_V and P_V correspond to the volumetric energy density and power density of the device respectively.