ARTICLE

Electronic Supplementary Information

Enhanced Capacitive Performance by Improving the Graphitized Structure in Carbon Aerogels Microsphere

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Morphologies information.

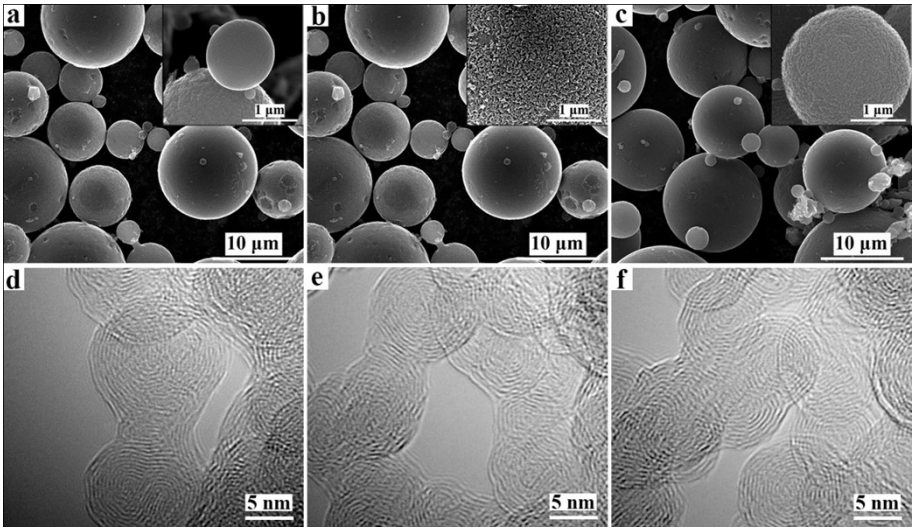

Fig. S1 SEM images (a, b and c) and HRTEM images (c, d and f) of G1500, G2000 and G2500, respectively.

It can be observed that the morphologies of GCP are almost the same as that of CP with spherical in shape and diameters of 1–15 μm (Fig. 2(a)), possessing a smooth surface without cracks and impurity at high magnification. Many small irregular lattice fringes can be observed from HRTEM image of CP (Fig. 2c), which indicates the existence of graphite crystallite or disorder graphite layers in CP. It is obviously that the lattice fringes became more clear and regular with the increase of graphitization temperature.

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XPS study

XPS was employed to evaluate the surface chemistry in CAs. As shown in Fig. S2, only two main groups of spectral peaks identified in the XPS spectra of CAs, corresponding to C1s and O1s.

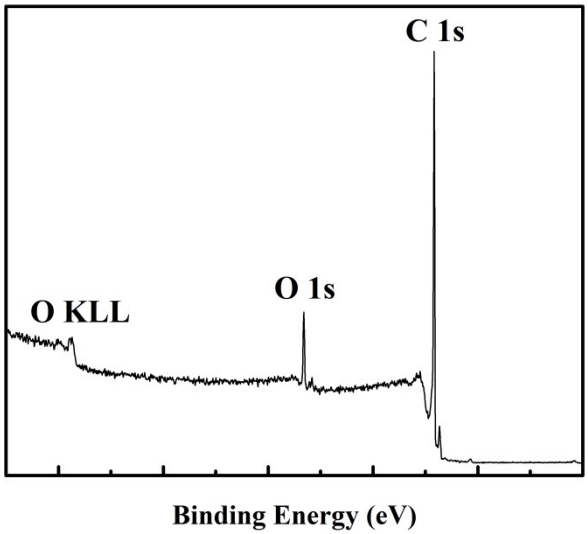

Fig. S2 XPS spectrum of the CAs.

Porous properties

Table S1. Corresponding pore parameters of the CAs, GCAs and activated samples.

Sample	S_{BET} / (m^2 g^{-1})	V_t / (cm^3 g^{-1})	Activated sample	S_{BET} / (m^2 g^{-1})	V_t / (cm^3 g^{-1})
CAM	42.9	0.048	CAM-8	1107	0.575
G1500	22.3	0.031	G1500-8	715	0.484
G2000	14.5	0.025	G2000-8	49	0.071
G2500	9.8	0.018	G2500-8	30	0.045
G2800	6.6	0.017	G2800-8	19	0.030

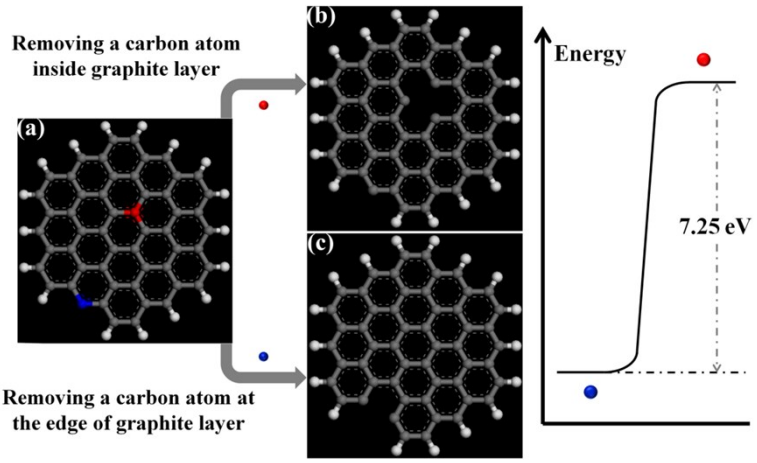

Fig. S3 Schematic diagram of removing a carbon atom from the interior and edge of the graphite layer.

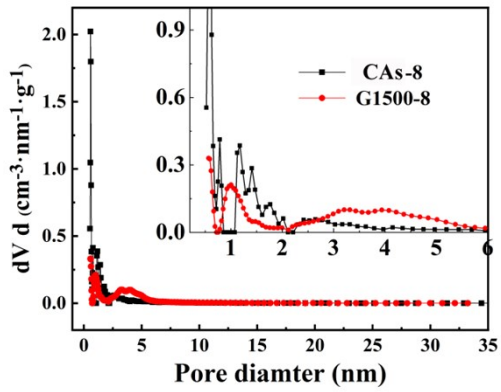

Fig. S4 The pore size distribution of the CAs and G1500-8.

Electrochemical performance

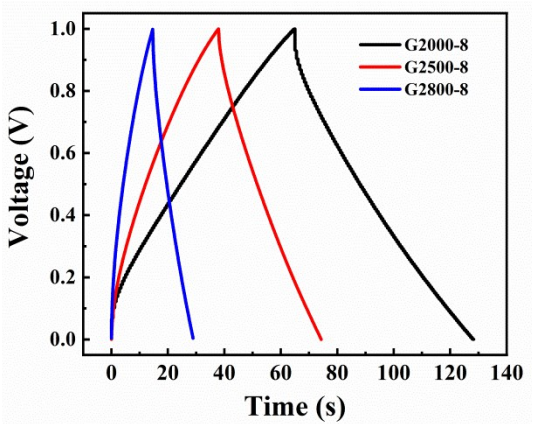

Fig. S5 The Galvanostatic charge-discharge curves of G2000-8, G2500-8 and G2800-8 at 0.05 A g^{-1}.

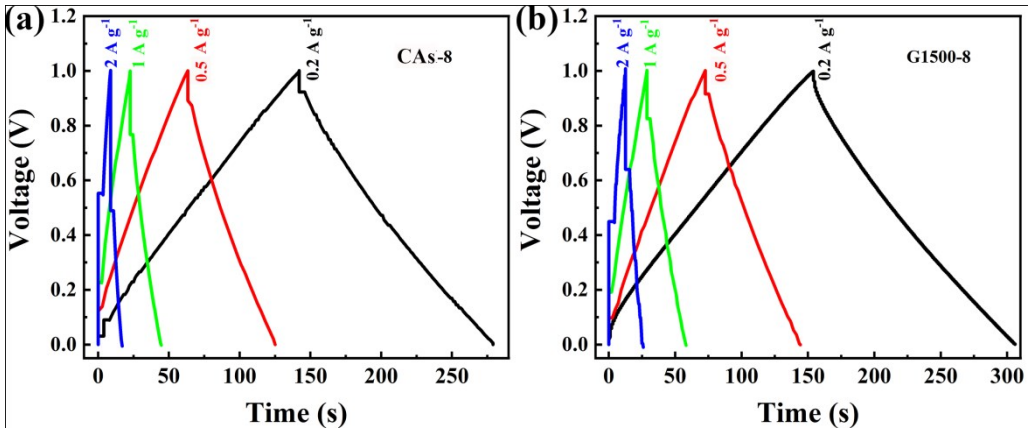

Fig. S6 The Galvanostatic charge-discharge curves of CAs and G1500-8 at different current density.