Supplementary data

Table S-1

Activation parameters the surface area of activated carbon samples

Sample #	catalyst	Catalyst concentration mol g^{-1}	Temperature ℃	Specific surface area $m^2 g^{-1}$
S1	$NaHCO_3$	0.05	820	552
S1-1	$NaHCO_3$	0.025	820	524
S2	NaOH	0.05	820	1616
S2-1	NaOH	0.025	820	376
S3	KOH	0.05	820	2490
S3-1	KOH	0.025	820	1058

The Table S-1 indicates that KOH is the best catalyst among these three catalysts for creating a higher specific surface area. With the increasing quantity of the catalyst, the surface area of the activated carbon will increase. NaOH is more obvious than the other two catalysts, and $NaHCO_3$ just show a slightly increase.

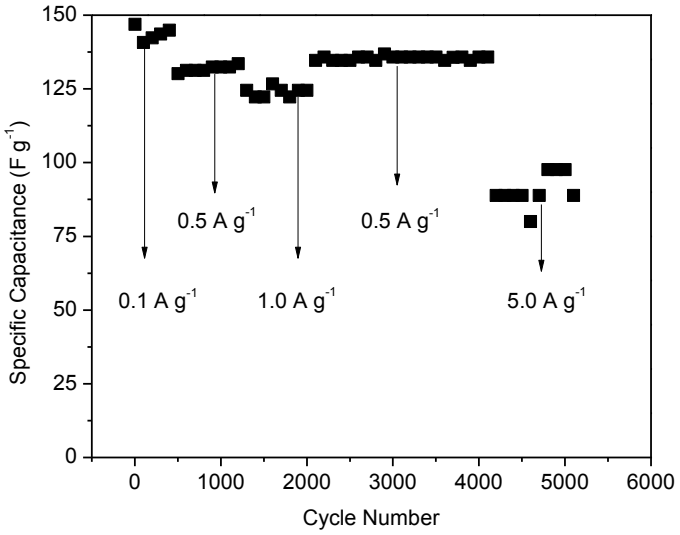

Fig. S1. The cycling performance of S1 at the charge/discharge current of 0.1, 0.5, 1.0 and 5.0 A g^{-1}.

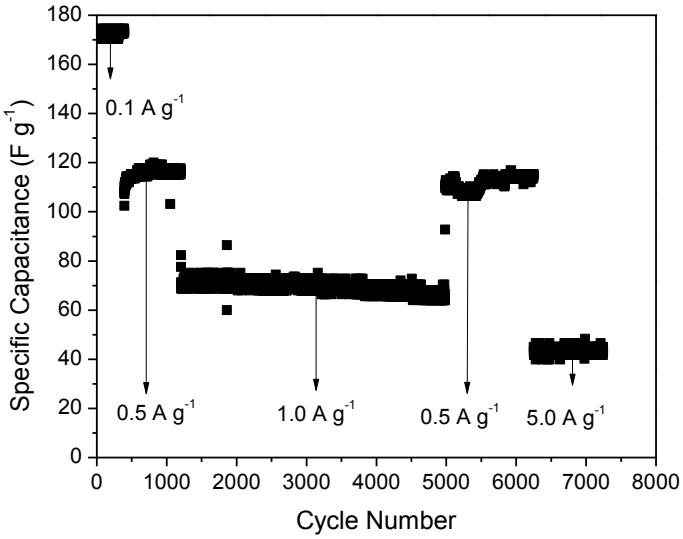

Fig. S2. The cycling performance of S2 at the charge/discharge current of 0.1, 0.5, 1.0 and 5.0 A g^{-1}.

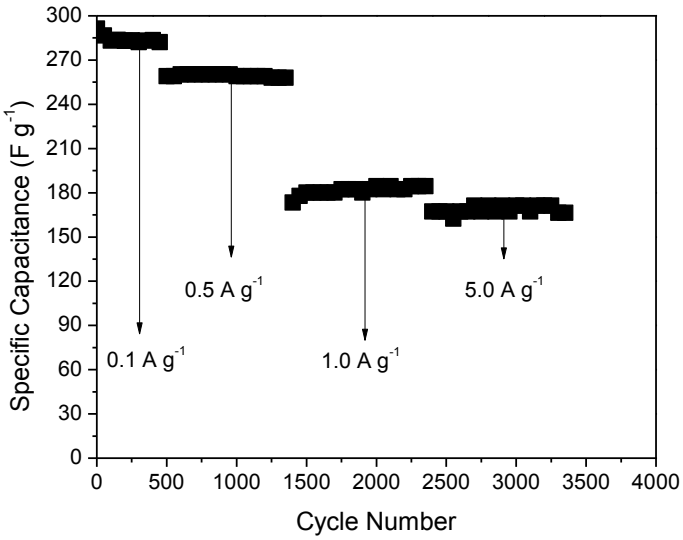

Fig. S3. The cycling performance of S3 at the charge/discharge current of 0.1, 0.5, 1.0 and 5.0 A g^{-1}.

The cycling performances of these 3 samples are shown in Fig. S1, Fig. S2 and Fig. S3. As are shown here, at the lower current density, each of these three samples is presenting a

relatively higher specific capacitance than the specific capacitance at high current. Because of the layered graphene and hierarchical porous carbon structures, at the high current density of 5.0 A g^{-1}, the activated carbon S3 still present a high specific capacitance of 172 F g^{-1}.