Supporting Information for

Elaborate Construction of N/S-co-doped Carbon Nanobowls for Ultrahigh Power Supercapacitors

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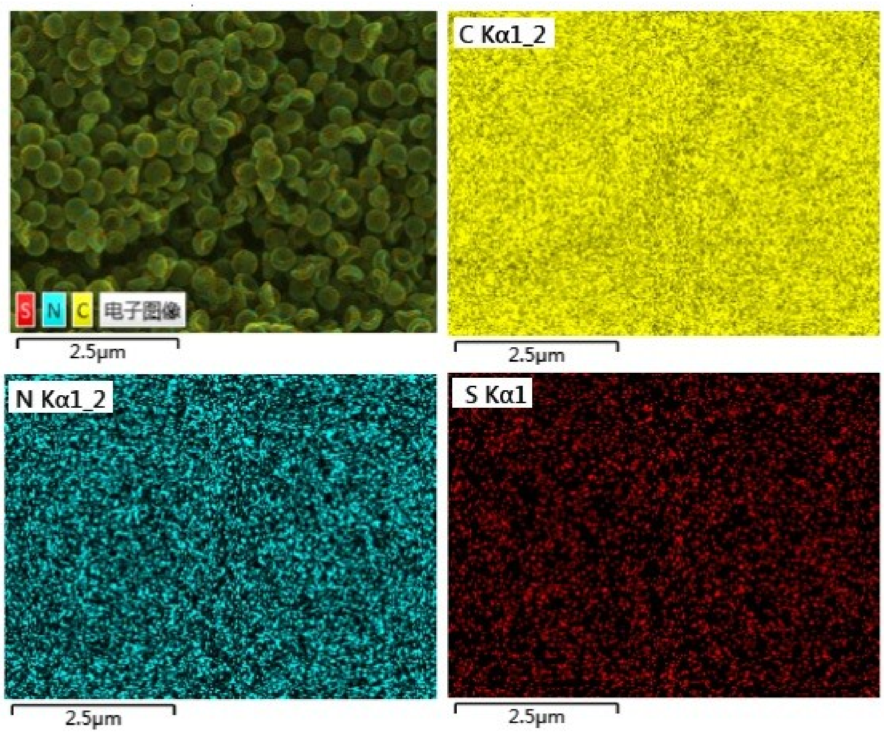

Fig. S1 EDX elemental mapping of the carbon nanobowls.

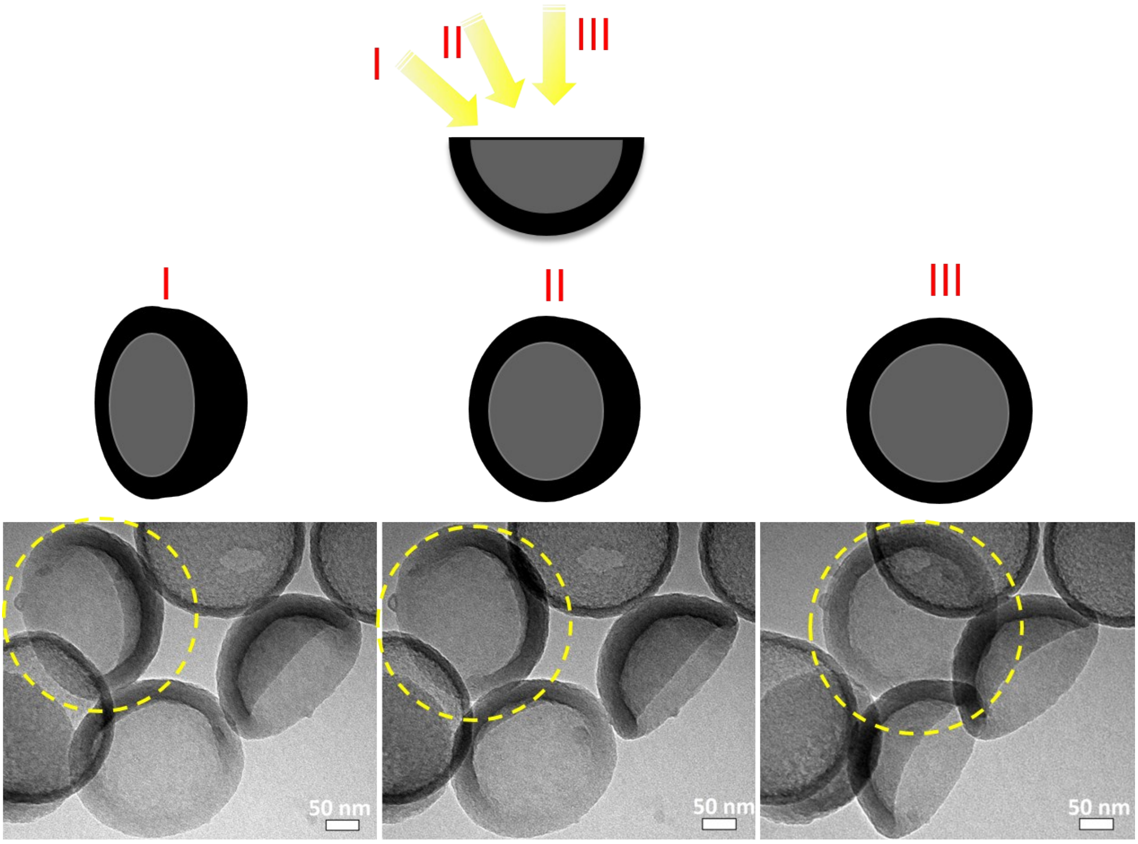

Fig. S2 TEM observation with different view angles to show the carbon nanobowls.

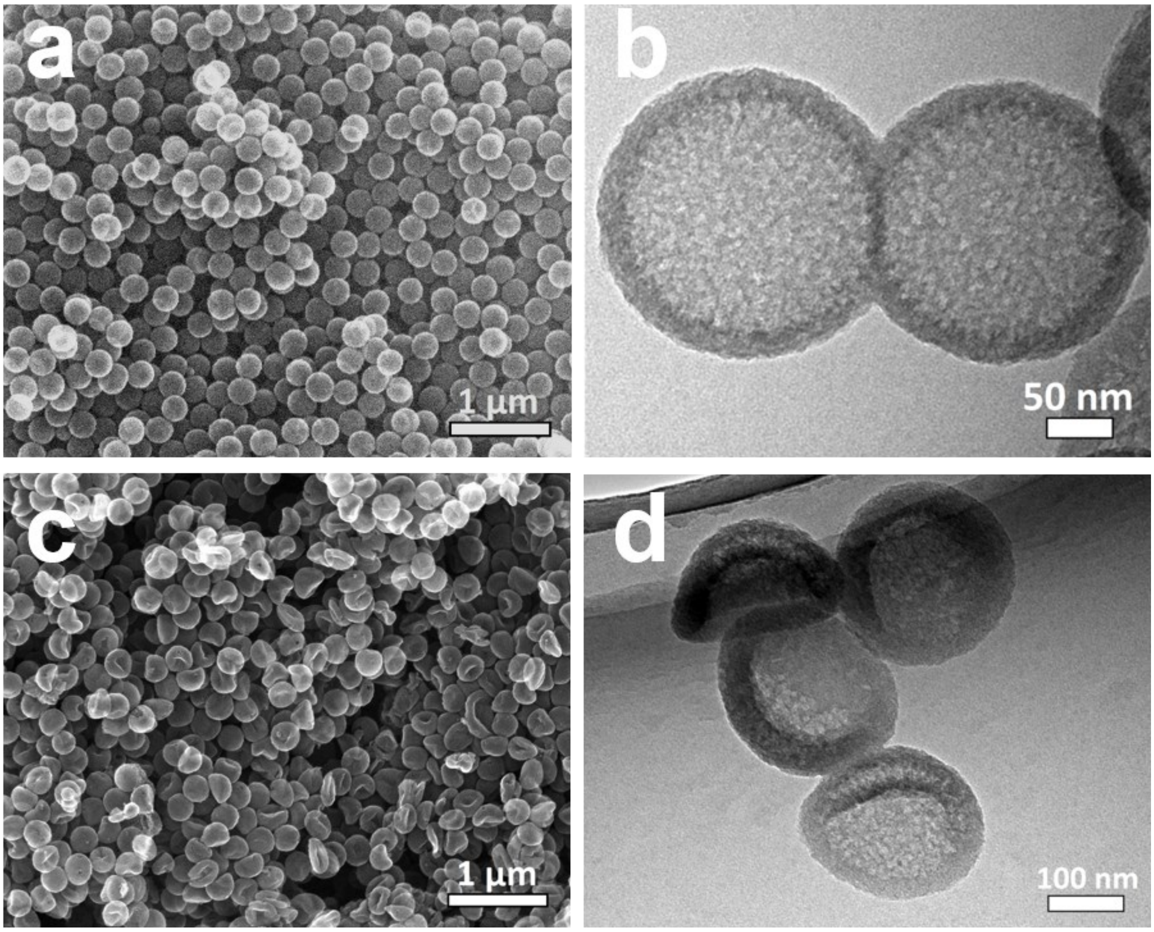

Fig. S3 SEM and TEM images of carbon nanostructure using freeze drying (a, b) and re-soaking in water with oven drying (c, d).

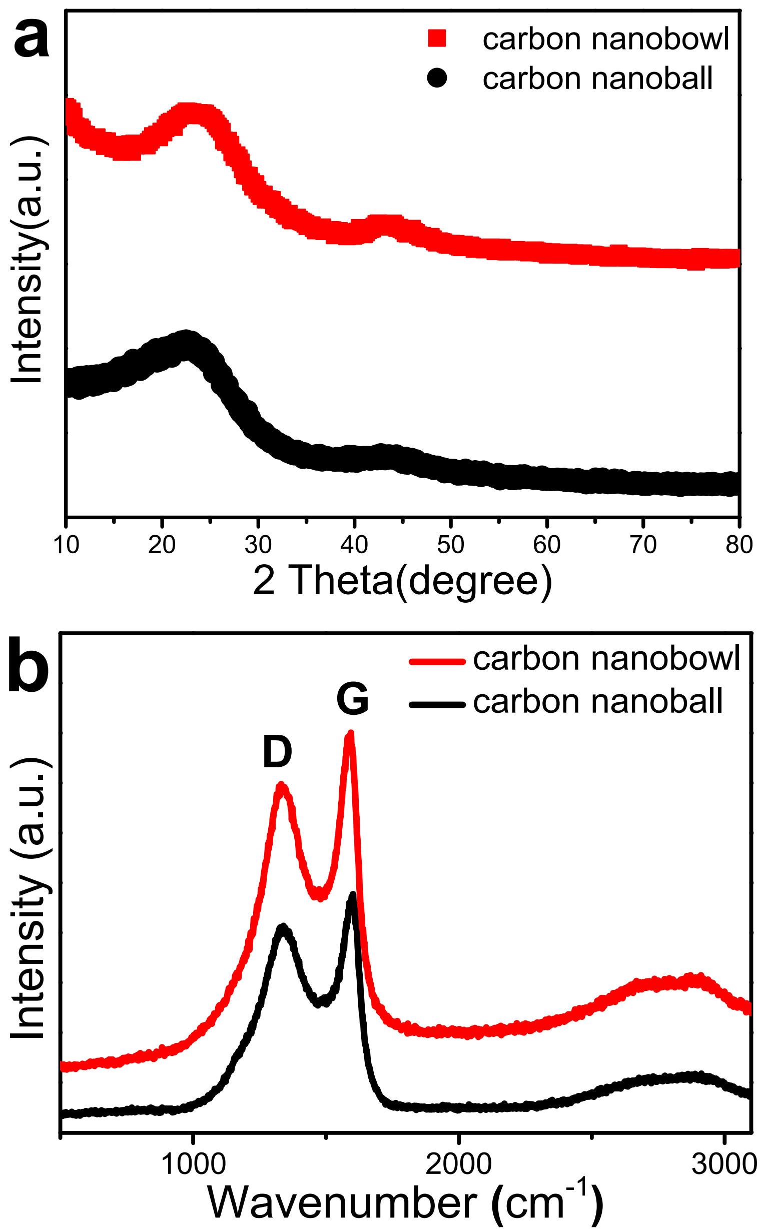

Fig. S4 (a) XRD and (b) Raman spectra of the carbon samples.

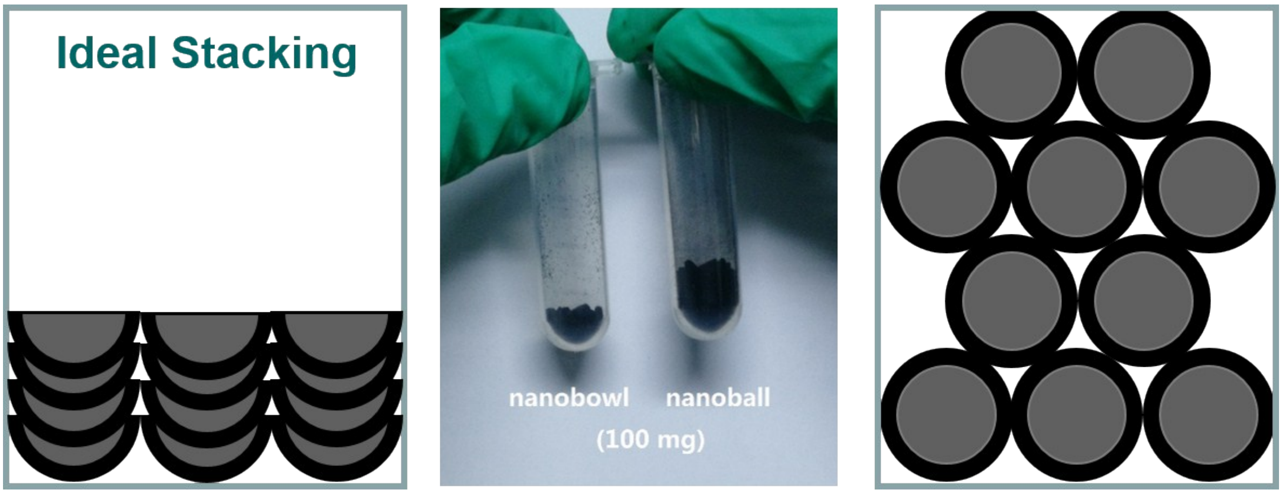

Fig. S5 Volume comparison of the carbon nanobowl and nanoball samples having the same mass of 100 mg. The illustrations present the ideal stacking of nanobowls (number: 12) and nanoballs (number: 10), showing a significant reduction in the volume occupy for the nanobowl samples.

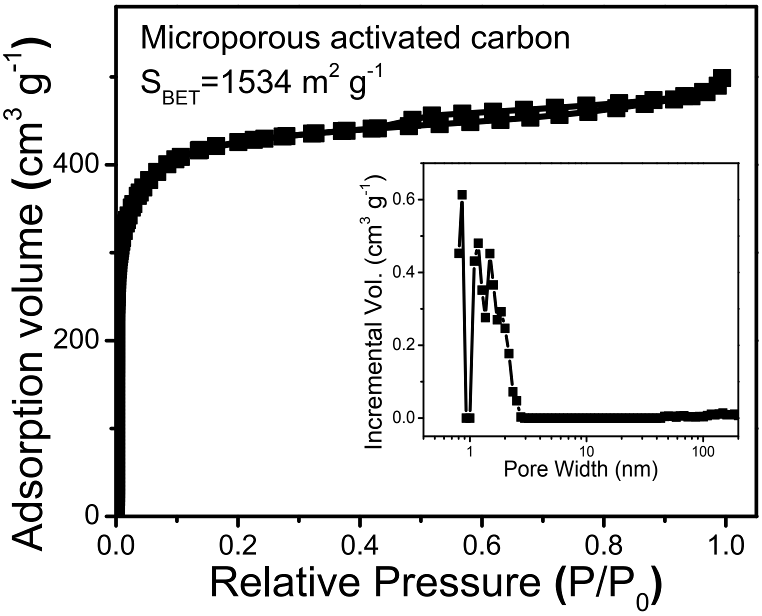

Fig. S6 N_2 adsorption/desorption isotherm and its corresponding pore size distribution of commercial activated carbon.

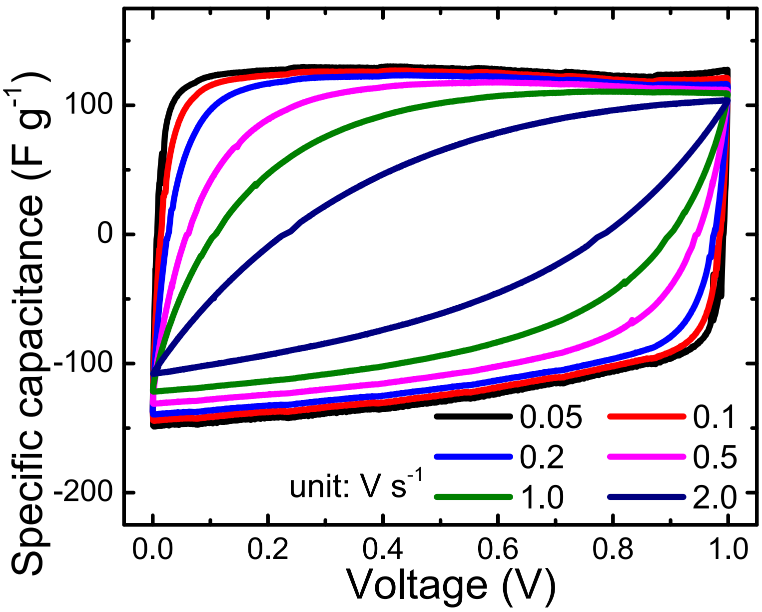

Fig. S7. CV curves of activated carbon electrode at various scan rates.

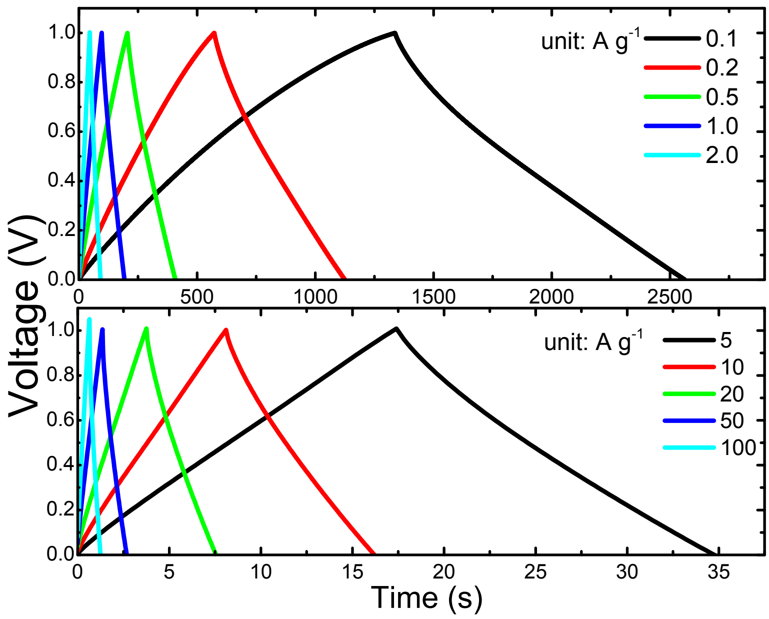

Fig. S8. Galvanostatic charge/discharge curves of carbon nanoball electrode at various current densities.

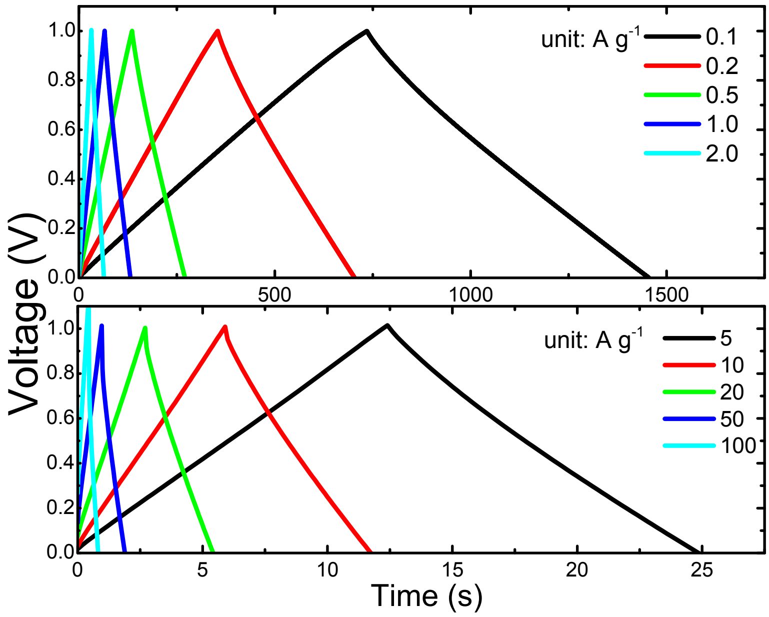

Fig. S9 Galvanostatic charge/discharge curves of activated carbon electrode at various current densities.

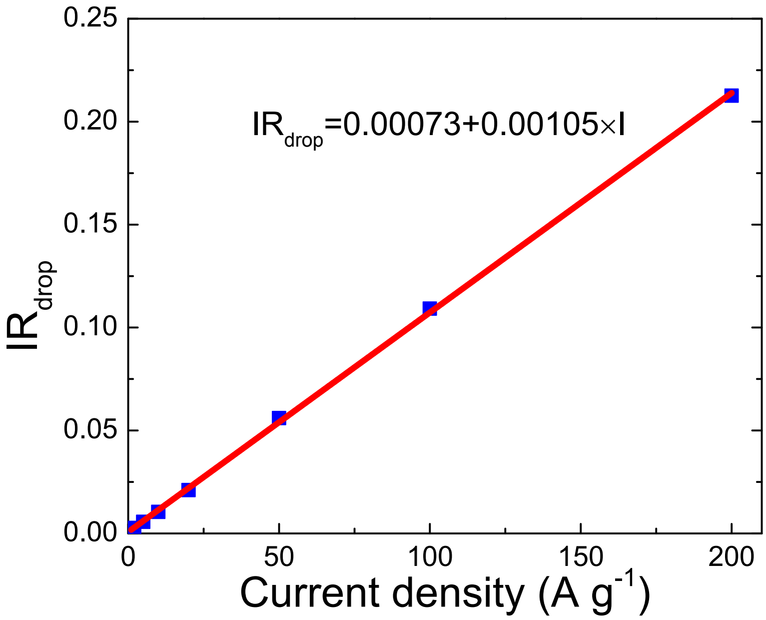

Fig. S10 IR drop as a function of the current density.

Table S1 Supercapacitive comparison of various carbon materials.

Sample[a]	SC [b] (F g^{-1})	Current rate (A g^{-1})	SC (F g^{-1})	Current rate (A g^{-1})	Cycling retention	Electrolyte	Test condition	Ref.
N-HCS	266.9	0.5	224	20	100% (1000)	6 M KOH	3-Electrode	1
N-HCS	203	1	180	10	100% (500)	6 M KOH	2-Electrode	2
N-CNF	202	1	164.5	30	97% (3000)	6 M KOH	3-Electrode	3
HCS	270	0.5	196	10	92% (1000)	6 M KOH	3-Electrode	4
N-HCS	213	0.5	118	10	91% (5000)	6 M KOH	3-Electrode	5
N-HCS	310.4	1	157	50	98.6% (10000)	6 M KOH	3-Electrode	6
N-HCS	150	1	-	-	88% (5000)	6 M KOH	3-Electrode	7
HCS	230	0.5	159	10	98% (1500)	6 M KOH	3-Electrode	8
N,P-HCS	232	1	158	10	89.1% (3000)	6 M KOH	3-Electrode	9
N,P-C	105	0.3	58	10	89.5% (10000)	6 M KOH	2-Electrode	10
N-HCS	210	0.5	90	5	95.6% (1000)	6 M KOH	3-Electrode	11
HCS	74.5	0.5	51	10	100% (5000)	6 M KOH	2-Electrode	12
N-OMC	213	0.2	137	5	-	6 M KOH	3-Electrode	13
N,S-OMC	167	1	101	50	97% (1000)	2 M KOH	3-Electrode	14
OMCS	172	0.2	118	20	98.2% (1000)	6 M KOH	3-Electrode	15
OMC	211.6	0.5	125	20	98% (300)	30% KOH	3-Electrode	16
N-OMCS	231	1	190	50	100% (20000)	6 M KOH	3-Electrode	17
N-CNB	305	0.1	170	10	100% (10000)	1 M H_2SO_4	2-Electrode	18
N-HCS	236	0.1	170	80		1 M H_2SO_4	3-Electrode	19
N-OMC	173	0.2	114	20	107.5% (10000)	1 M H_2SO_4	3-Electrode	20
OMC	219	0.1	108	5	140% (10000)	1 M H_2SO_4	3-Electrode	21
HCS/CNT	201.5	0.5	145	20	90% (5000)	6 M KOH	3-Electrode	22
CNT	286	0.1	203	50	100% (10000)	6 M KOH	3-Electrode	23
CNF	236	5	163	50	100% (5000)	6 M KOH	3-Electrode	24
CNF	256	0.2	170	20	95% (1000)	6 M KOH	3-Electrode	25
3D-HPC	318.2	0.5	189	0.5	95.8% (10000)	6 M KOH	2-Electrode	26
HPC	238	0.2	178	30	95.7% (15000)	6 M KOH	2-Electrode	27
CNS	276.5	1	227	20	91% (5000)	6 M KOH	2-Electrode	28
Graphene	255	0.5	100	30	93% (1200)	6 M KOH	3-Electrode	29
Graphene	189	0.05	123	5	93% (5000)	6 M KOH	2-Electrode	30
CNB	262	0.5	145	50	102% (10000)	6 M KOH	2-Electrode	31
CNC	205	1	179	200	96.5% (20000)	6 M KOH	2-Electrode	32
CNC	260	0.1	112	100	90% (1000)	6 M KOH	2-Electrode	33
N-CNC	313	1	234	100	98% (20000)	6 M KOH	2-Electrode	34
HPC	231	1	129	2000	99% (20000)	6 M KOH	2-Electrode	35
Carbon nanobowl	279	0.1	175	200	92.4% (50000)	6 M KOH	2-Electrode	This work

[a] HCS: Hollow Carbon Sphere; OMC: Ordered Mesoporous Carbon; CNF: Carbon Nanofiber; CNT: Carbon Nanotube; HPC: Hierarchical Porous Carbon; CNS: Carbon Nanosheet; CNB: Carbon Nanobelt; CNC: Carbon Nanocage

[b] SC: Specific Capacitance

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