sp^2–sp^3 Hybrid Porous Carbon Materials Applied for Supercapacitors

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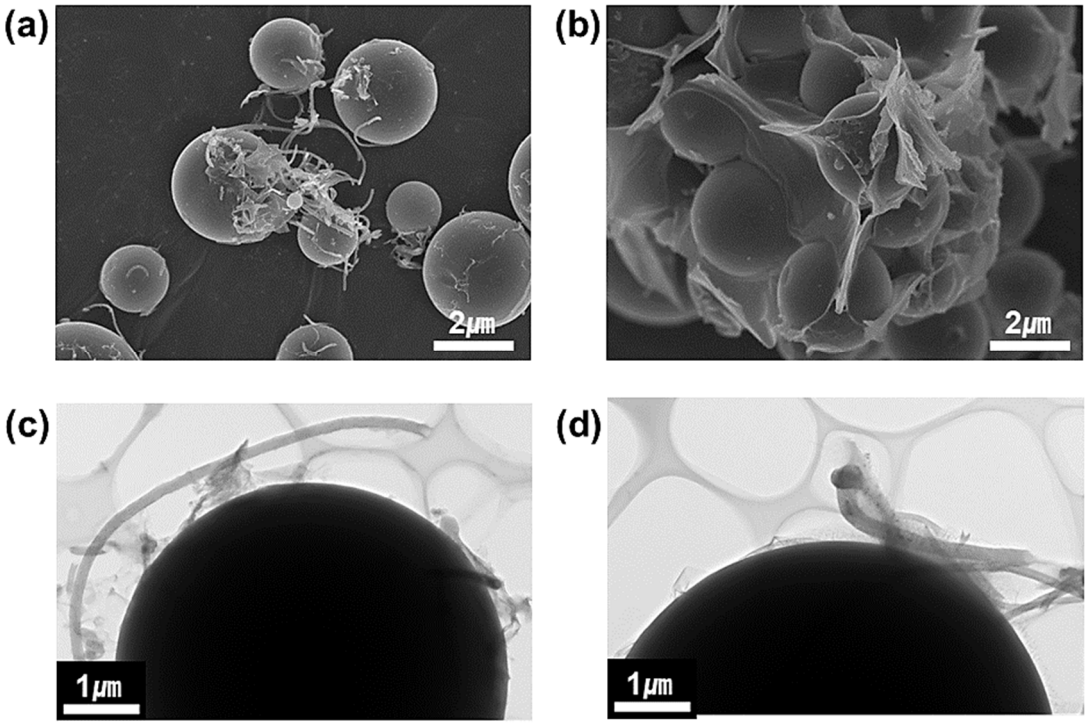

Figure S1 FE-SEM images of as-prepared (a) HPC-1/2 and (b) HPC-1/6; HR-TEM images of as-prepared (c) HPC-1/2 and (d) HPC-1/6.

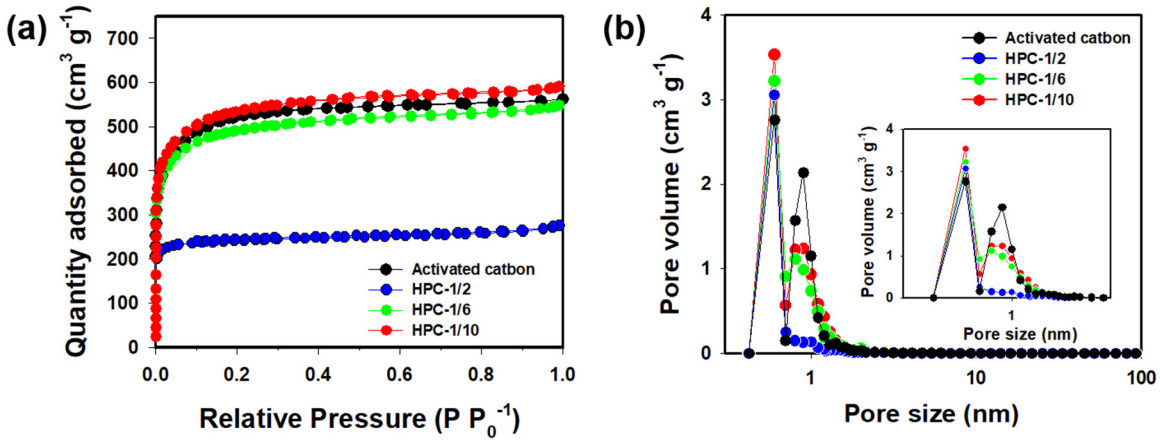

Figure S2 BET characterization of different samples: (a) N_2 adsorption isotherms and (b) pore size distribution (PSD) of activated carbon and HPC samples for different KOH concentrations (1:2, 1:6, 1:10).

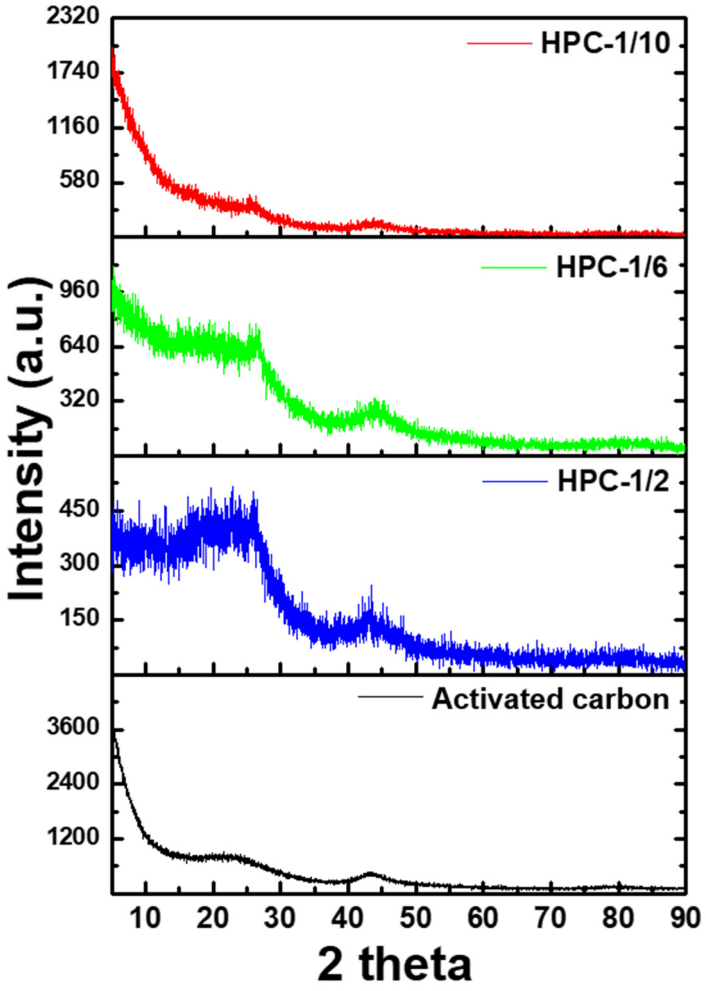

Figure S3 XRD pattern of samples.

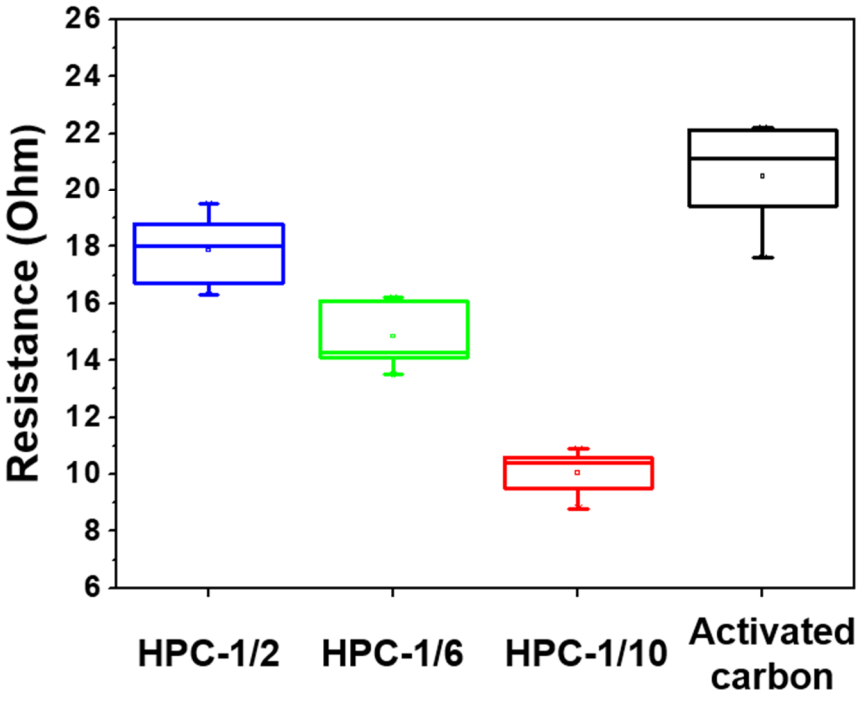

Figure S4 Equivalent series resistance (ESR) of cells assembled with each sample.

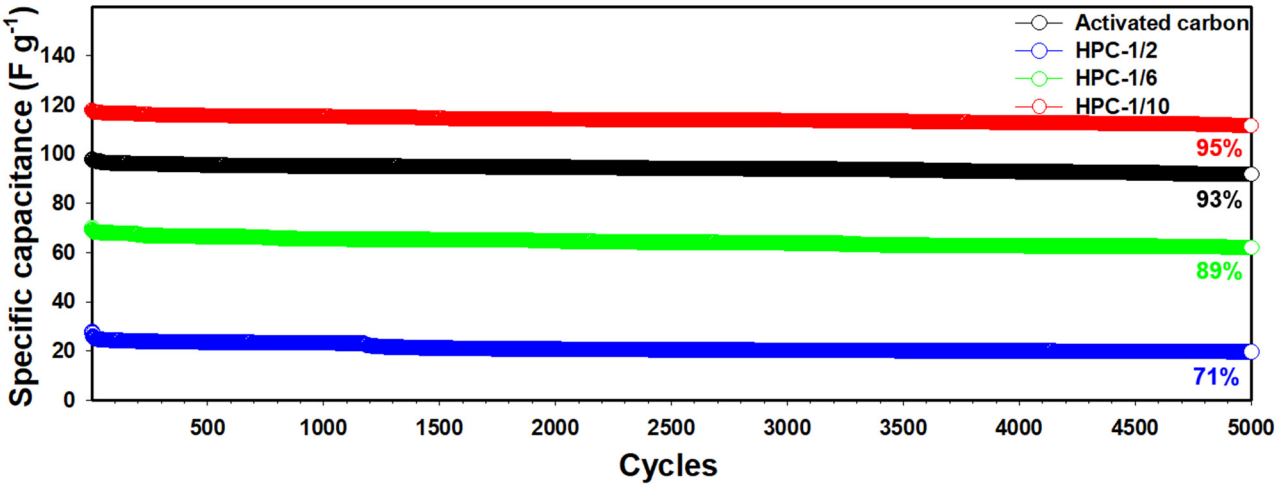

Figure S5 Cycle stability for samples at 5 mA·cm^{-2} and 1–2.7 V.

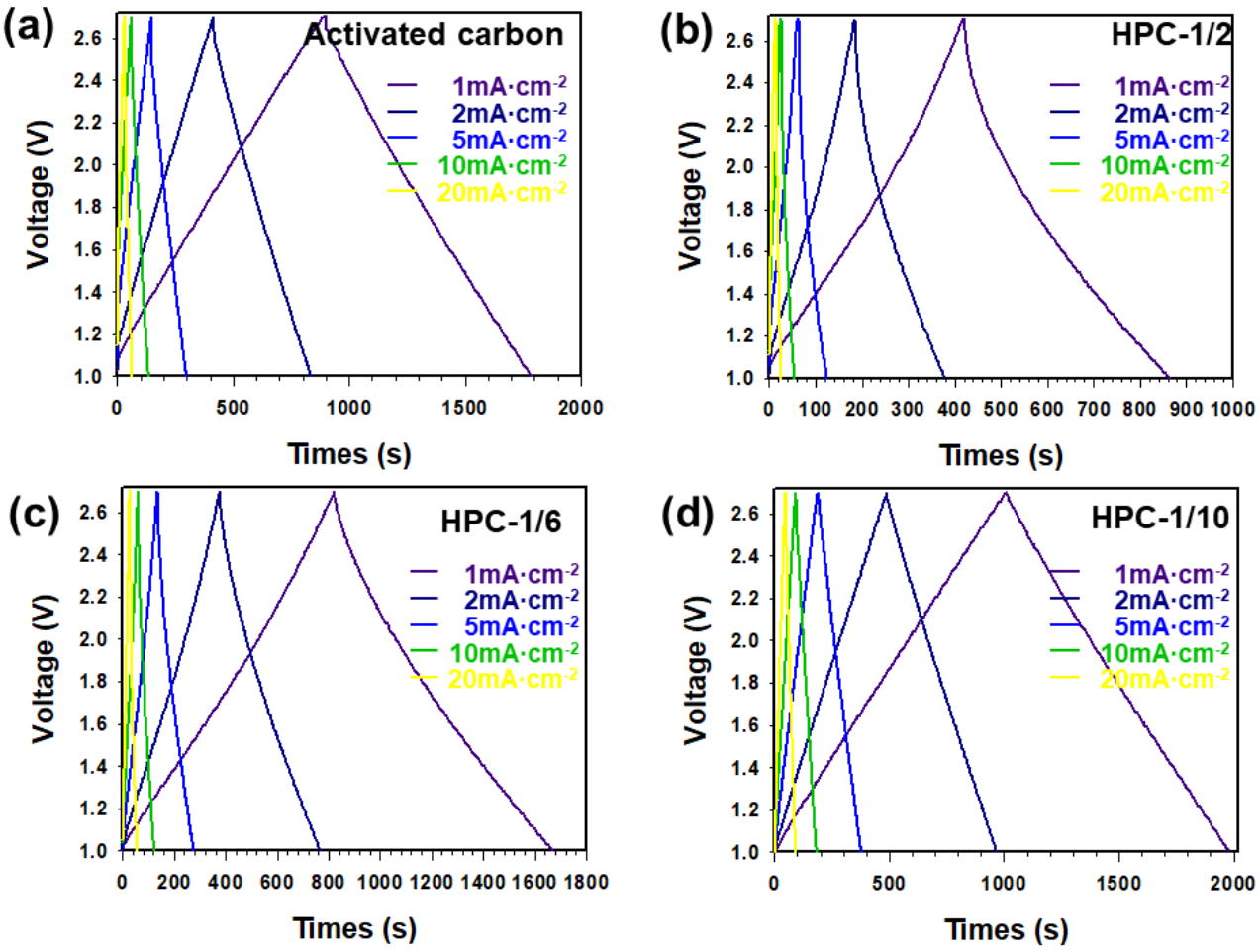

Figure S6 Charge-discharge profiles for samples between 1-2.7V at various current density

Table S1 Surface contents in samples and curve fitting results of the XPS C1s spectra

Samples	Components(%)		C=C (sp^2)		C-C (sp^3)		C-OH		C-O-C		C=O		O-C=O		π-π	
	C	O	B.E. (eV)	C. (%)	B.E. (eV)	C. (%)	B.E. (eV)	C. (%)	B.E. (eV)	C. (%)	B.E. (eV)	C. (%)	B.E. (eV)	C. (%)	B.E. (eV)	C. (%)
Activated carbon	92.8	7.2	284.4	41.1	284.8	16.2	285.4	10.8	286.2	10.6	287.4	8.6	288.7	7.1	289.9	5.6
HPC-1/2	88.4	11.6	284.4	49.9	284.9	17.5	285.7	11.3	286.5	7.4	287.7	6.7	288.9	4.8	290.1	2.4
HPC-1/6	91.0	9.0	284.4	45.5	284.8	17.7	285.4	12.5	286.4	9.7	287.5	5.3	288.6	5.7	290.0	3.6
HPC-1/10	95.1	4.9	284.4	44.0	284.8	18.4	285.4	12.3	286.2	10.0	287.5	6.3	288.8	5.8	290.1	3.2

Table S2 Electrode density of samples

Sample	Activated carbon	HPC-1/2	HPC-1/6	HPC-1/10
Electrode density (g/cm^3)	0.55	0.82	0.70	0.51