Supporting Information

Efficient improvement of electrochemical performance towards the carbon-based supercapacitors simply by introducing redox additives especially incurred by the effects of amine/nitro/hydroxyl groups adhering to the phenyl rings

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Fig. S1. FESEM: (a-b) carbon-1:1; (c-d) carbon-2:1
Fig. S2. The carbon-1:1 sample: (a) CV curves at different scan rates; (b) GCD curves at different current densities. The carbon-2:1 sample: (c) CV curves at different scan rates; (d) GCD curves at different current densities.
Fig. S3. The carbon-1:2 sample measured in the HQ-0.1/0.3 electrolytes: (a, c) CV curves at different scan rates; (b, d) GCD curves at different current densities.
Fig. S4. The carbon-1:2 sample measured in the PAP-0/0.1/0.3/0.5 electrolytes: (a) CV curves at a scan rate of 100 mV s⁻¹; (b) GCD curves at a current density of 2 A g⁻¹; (c) specific capacitances calculated from GCD curves; (d) Nyquist plots and the partial magnified Nyquist plots.
Fig. S5. The carbon-1:2 sample measured in the PAP-0.1/0.3 electrolytes: (a, c) CV curves at different scan rates; (b, d) GCD curves at different current densities.
Fig. S6. The carbon-1:2 sample measured in the PNP-0/0.1/0.3/0.5 electrolytes: (a) CV curves at a scan rate of 100 mV s$^{-1}$; (b) GCD curves at a current density of 3 A g$^{-1}$; (c) specific capacitances calculated from GCD curves; (d) Nyquist plots and the partial magnified Nyquist plots.
Fig. S7. The carbon-1:2 sample measured in the PNP-0.1/0.3 electrolytes: (a, c) CV curves at different scan rates; (b, d) GCD curves at different current densities.
**Fig. S8.** (a) The area normalized capacitance of three kinds of carbon sample measured in KOH electrolyte; (b-d) the area normalized capacitance of carbon-1:2 sample measured in HQ/PAP/PNP-0.1/0.3/0.5 electrolyte.