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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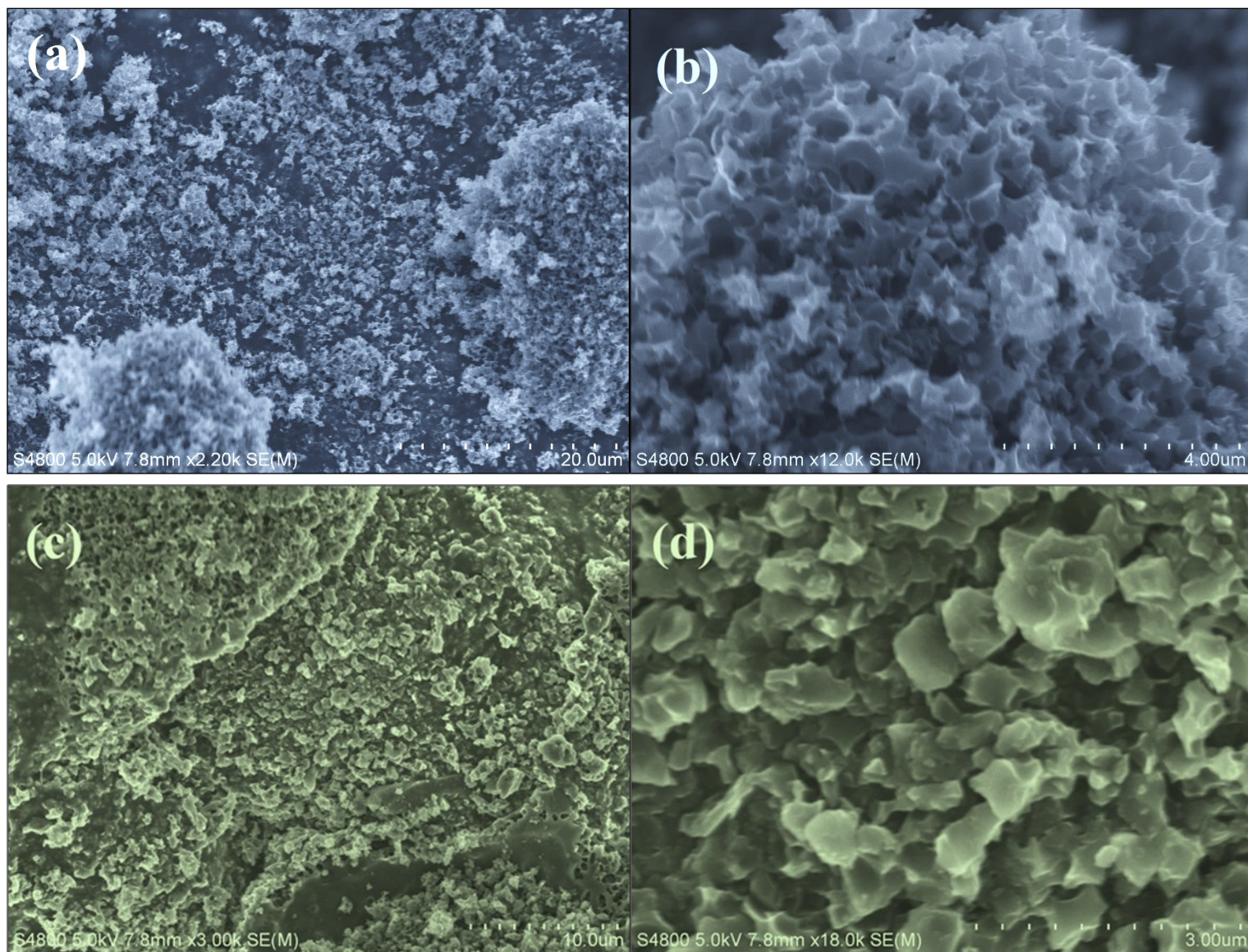
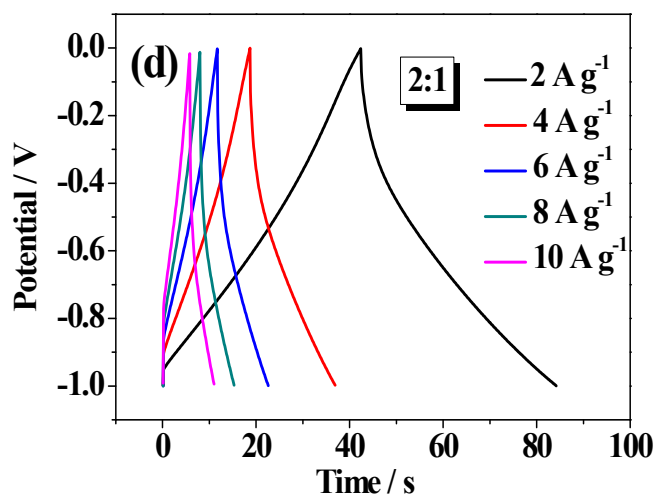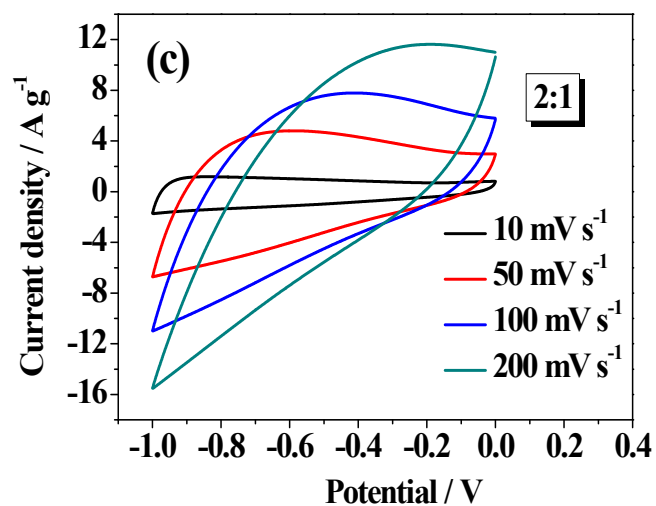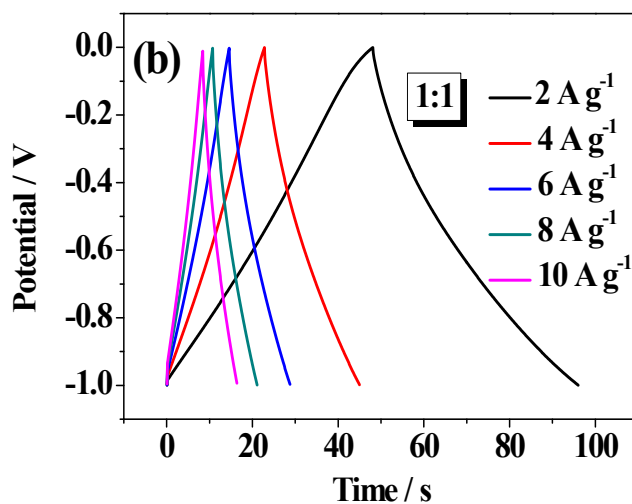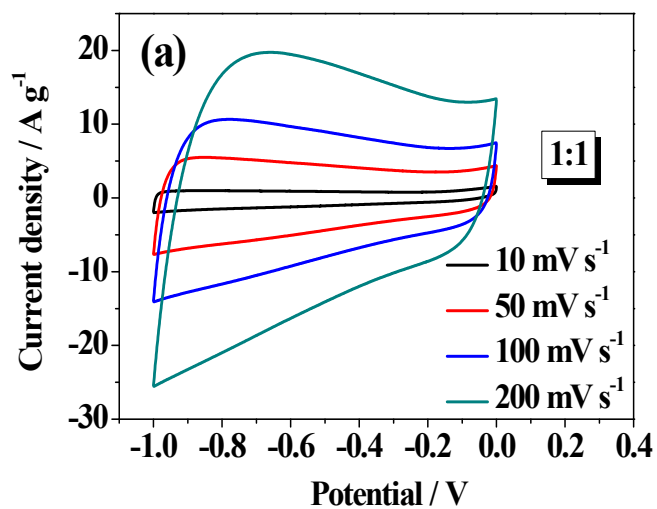**Fig. S1.** FESEM: (a-b) **carbon-1:1**; (c-d) **carbon-2:1**

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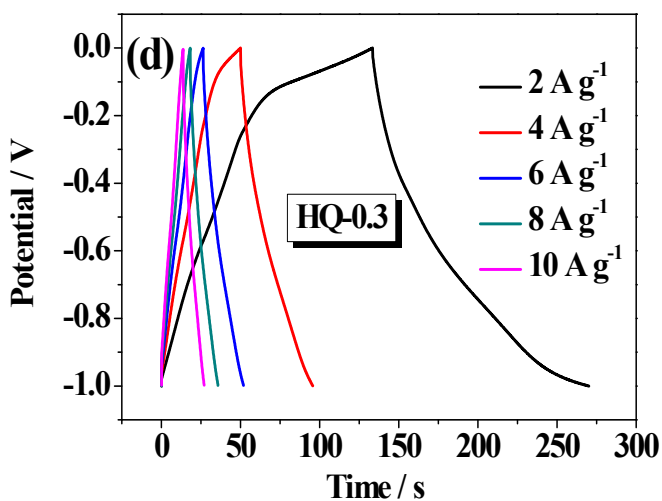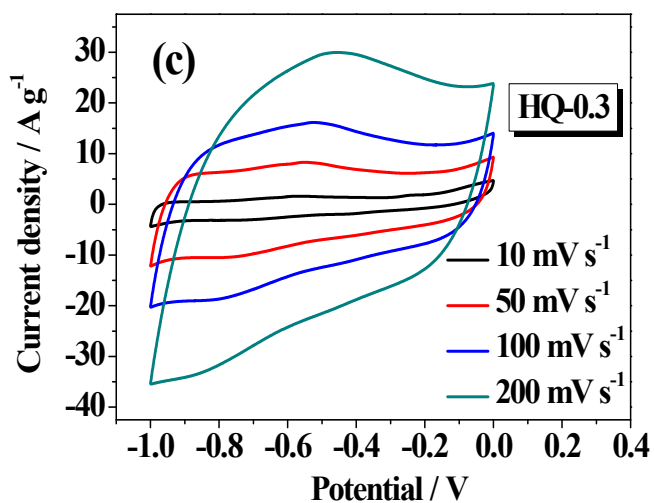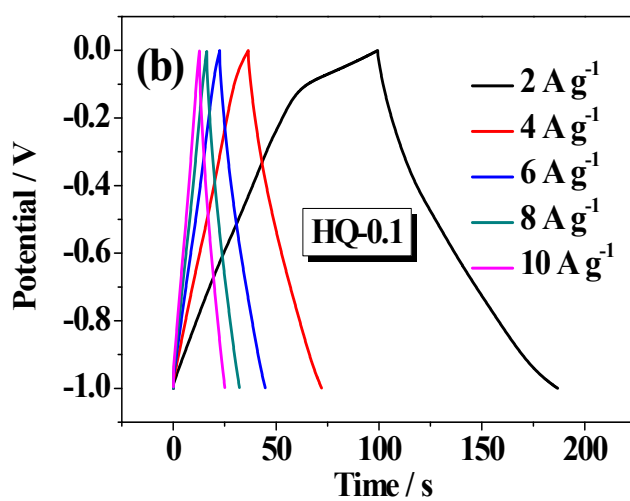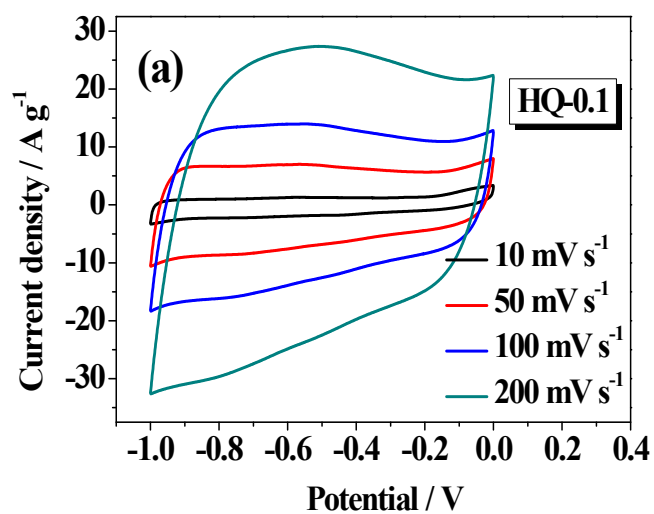
Fig. S3. The **carbon-1:2** sample measured in the **HQ-0.1/0.3** electrolytes: (a, c) CV curves at different scan rates; (b, d) GCD curves at different current densities.
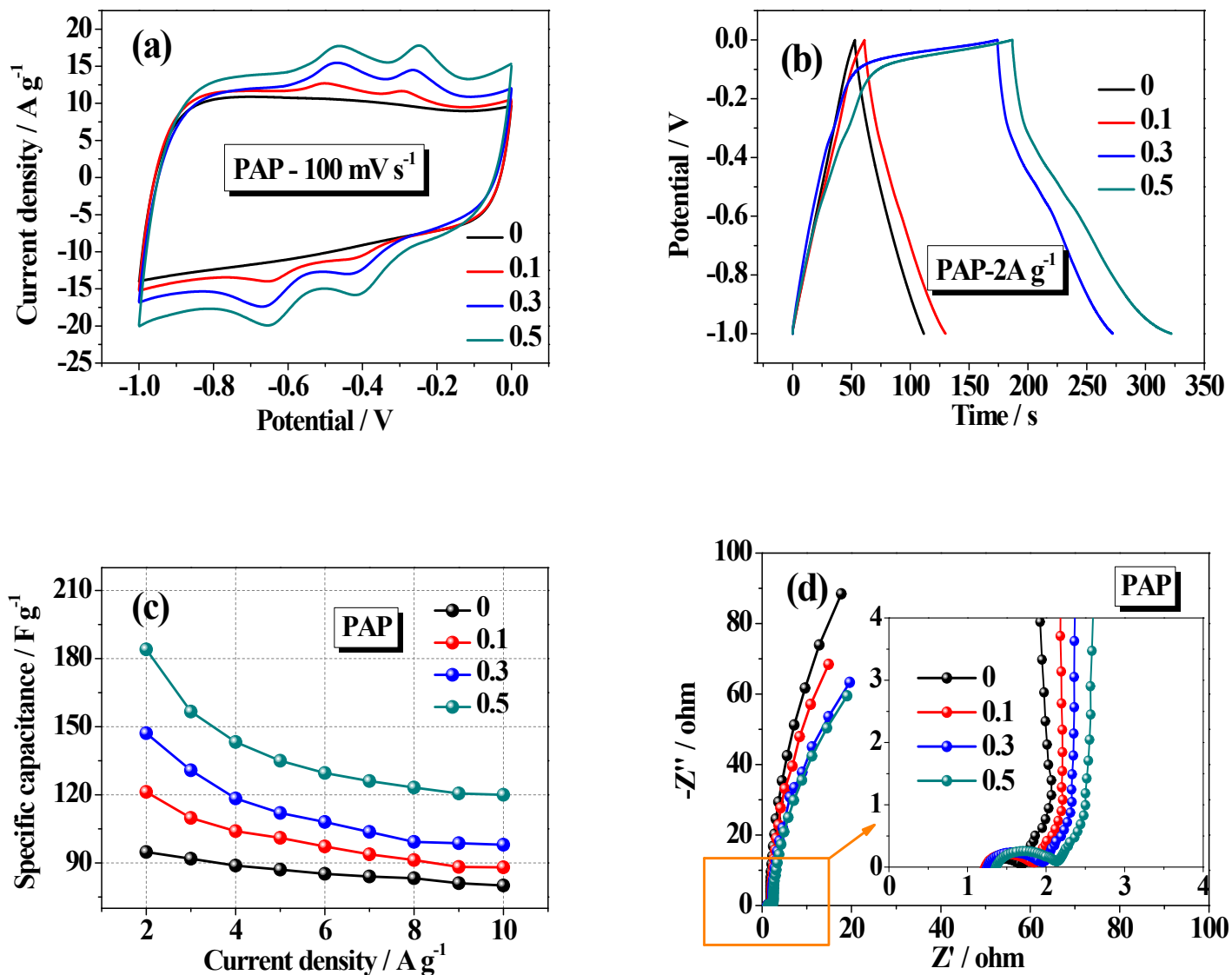
Fig. S4. The **carbon-1:2** sample measured in the **PAP-0/0.1/0.3/0.5** electrolytes: (a) CV curves at a scan rate of 100 mV s^{-1}; (b) GCD curves at a current density of 2 A g^{-1}; (c) specific capacitances calculated from GCD curves; (d) Nyquist plots and the partial magnified Nyquist plots.
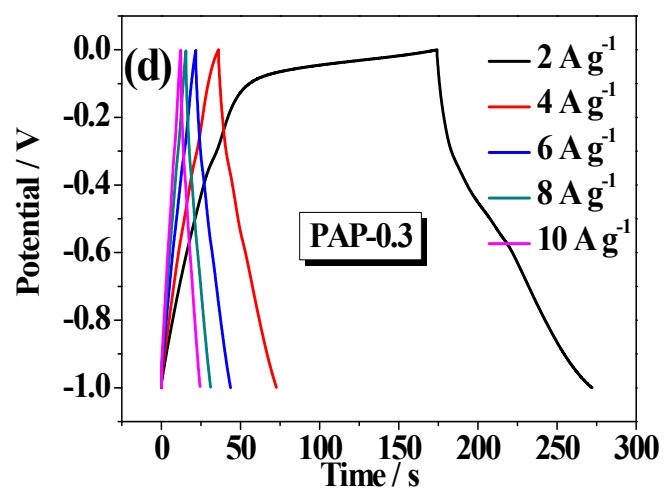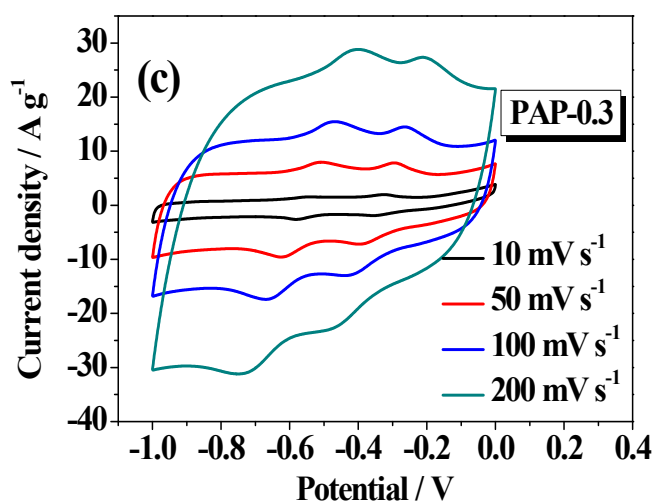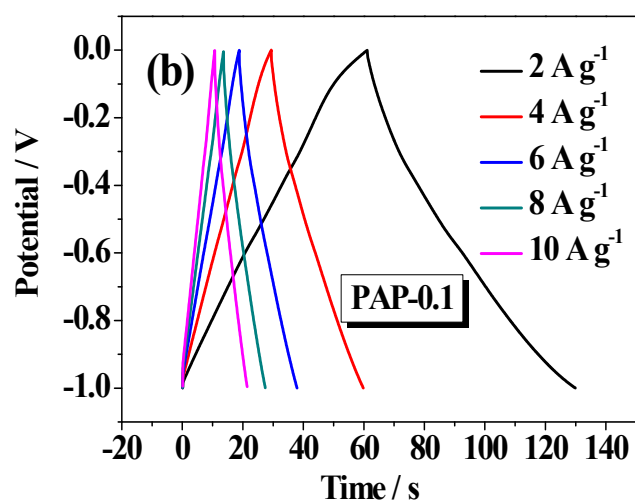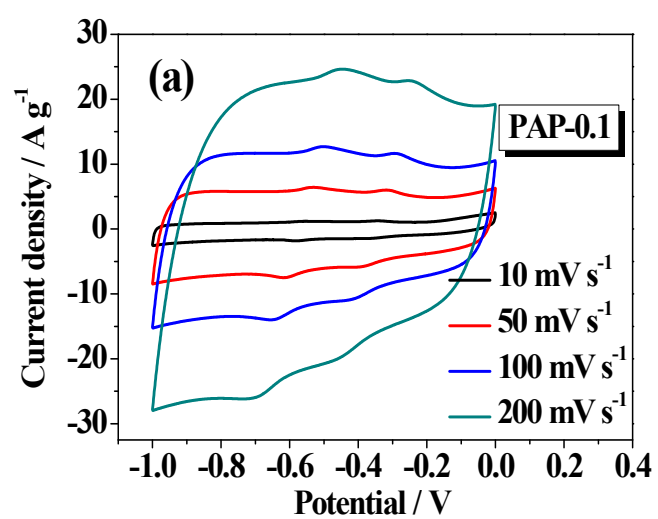
Fig. S5. The **carbon-1:2** sample measured in the **PAP-0.1/0.3** electrolytes: (a, c) CV curves at different scan rates; (b, d) GCD curves at different current densities.
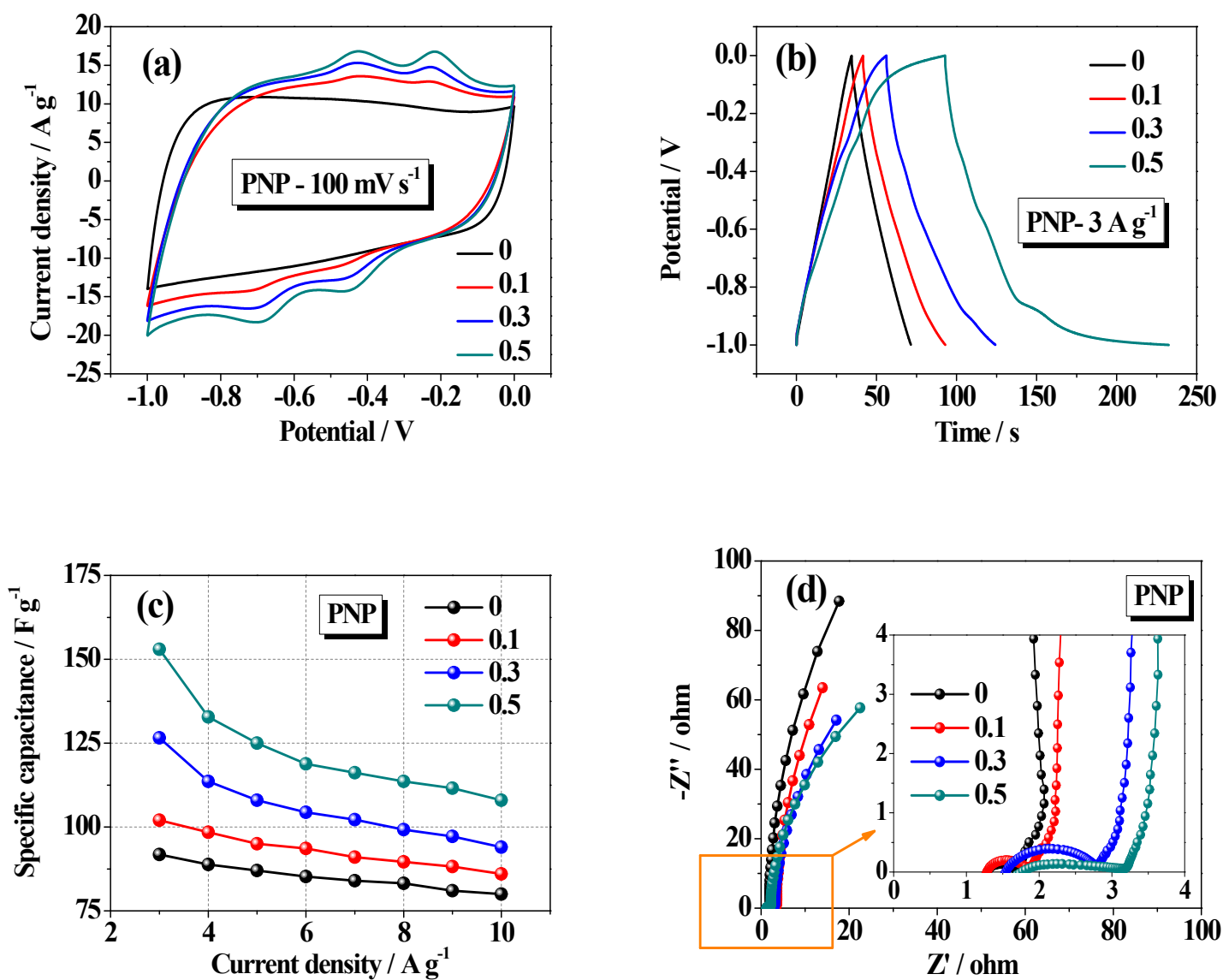
Fig. S6. The **carbon-1:2** sample measured in the **PNP-0/0.1/0.3/0.5** electrolytes: (a) CV curves at a scan rate of 100 mV s^{-1}; (b) GCD curves at a current density of 3 A g^{-1}; (c) specific capacitances calculated from GCD curves; (d) Nyquist plots and the partial magnified Nyquist plots.
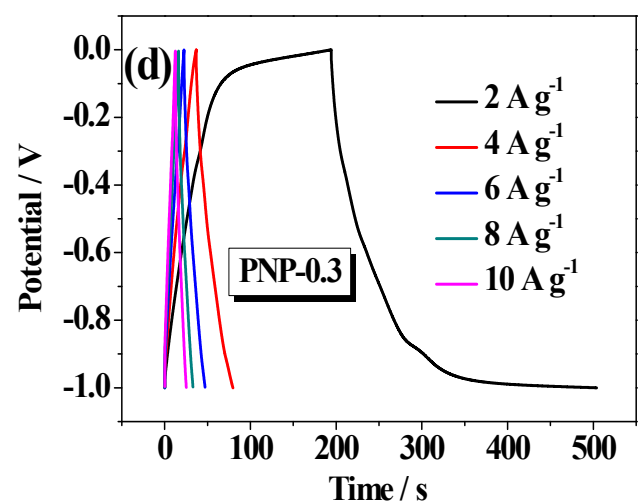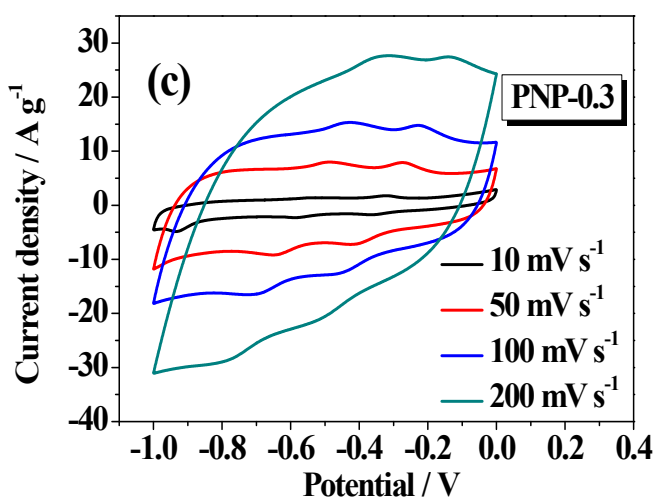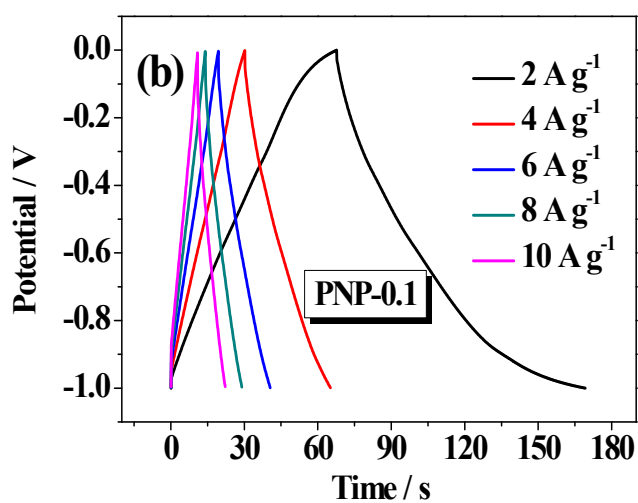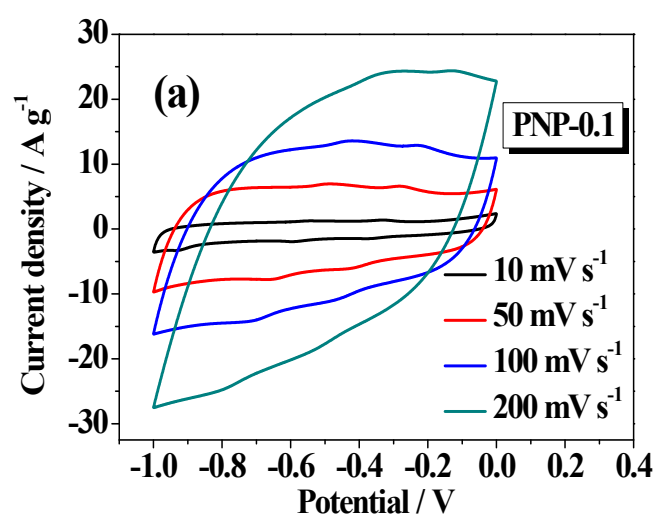
Fig. S7. The **carbon-1:2** sample measured in the **PNP-0.1/0.3** electrolytes: (a, c) CV curves at different scan rates; (b, d) GCD curves at different current densities.
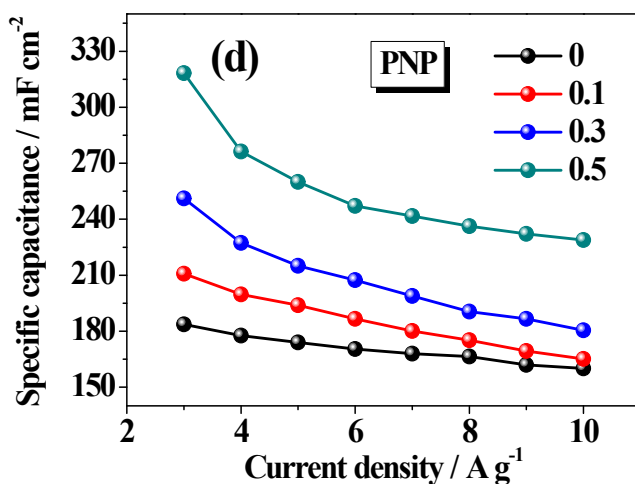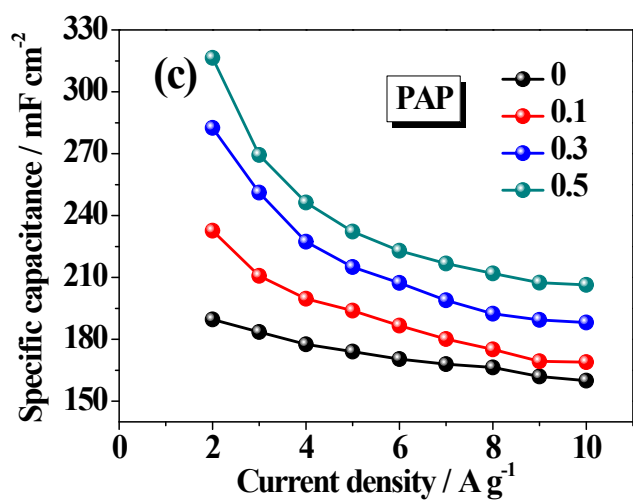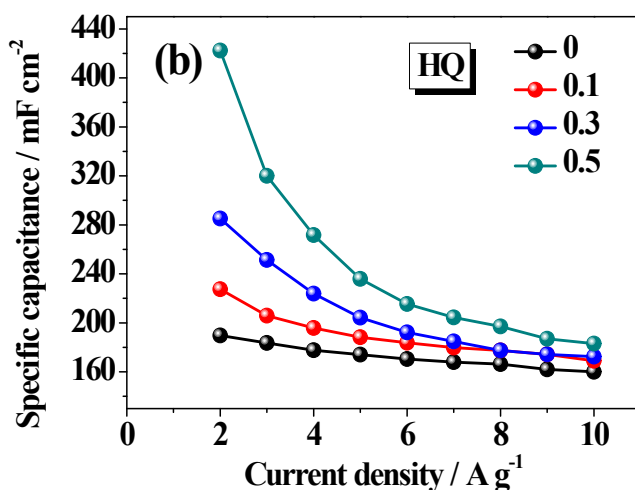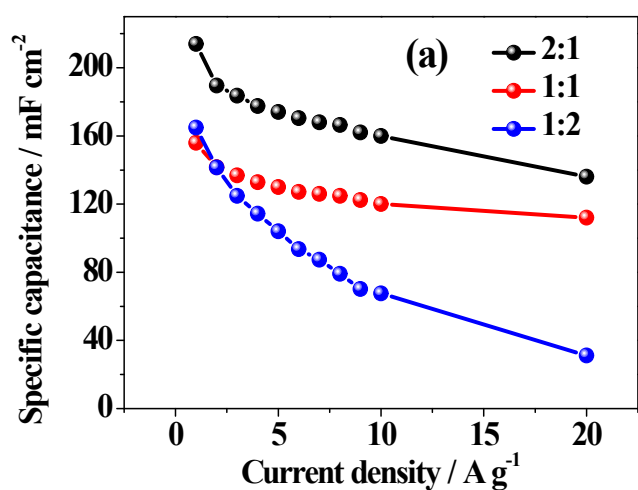
Fig. S8. (a) The area normalized capacitance of three kinds of carbon sample measured in KOH electrolyte; (b-d) the area normalized capacitance of carbon-1:2 sample measured in **HQ/PAP/PNP-0.1/0.3/0.5** electrolyte.