

Supporting Information:

Quinone/Ester-based Oxygen Functional Groups Enhanced Full Carbon Li Ion Capacitor

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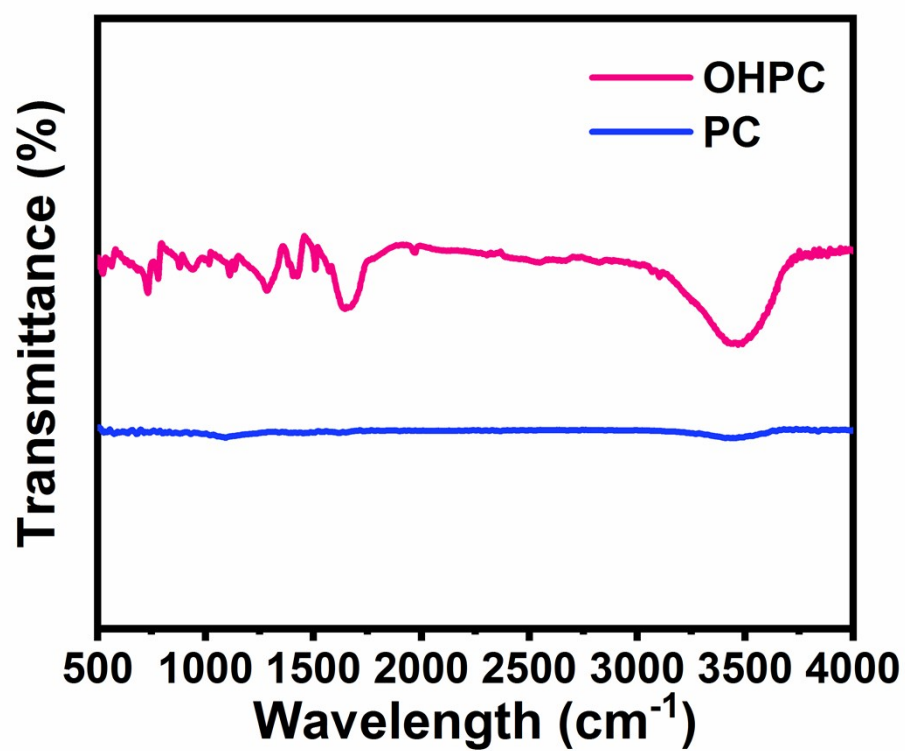


Fig S1. The IR image of OHPC and PC.

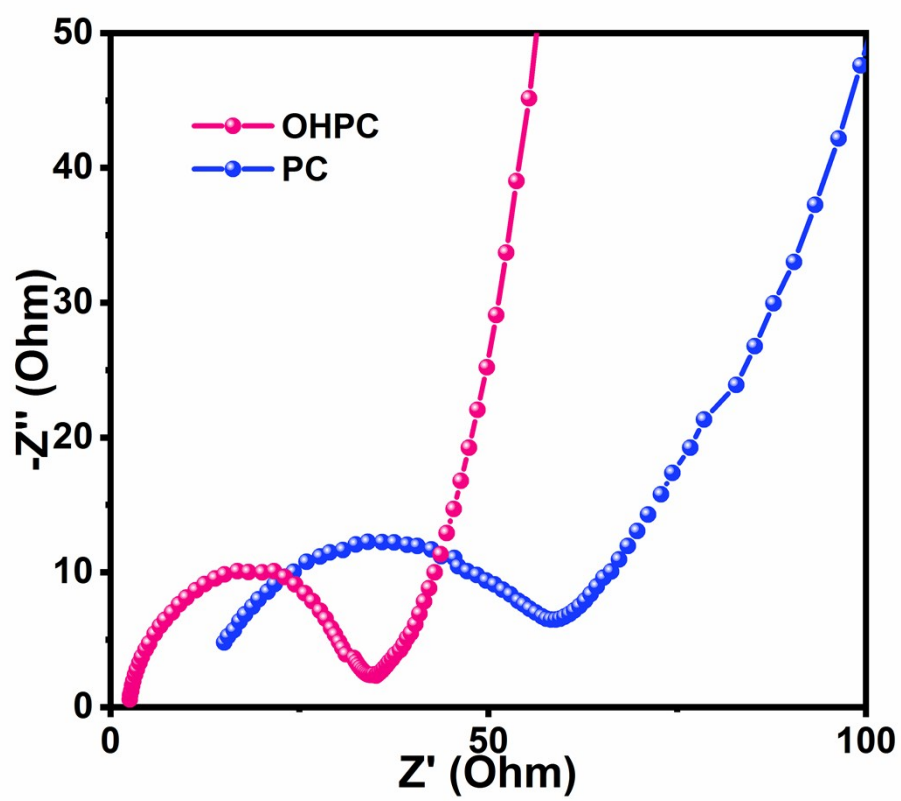


Figure S2. Nyquist plots of OHPC and PC.

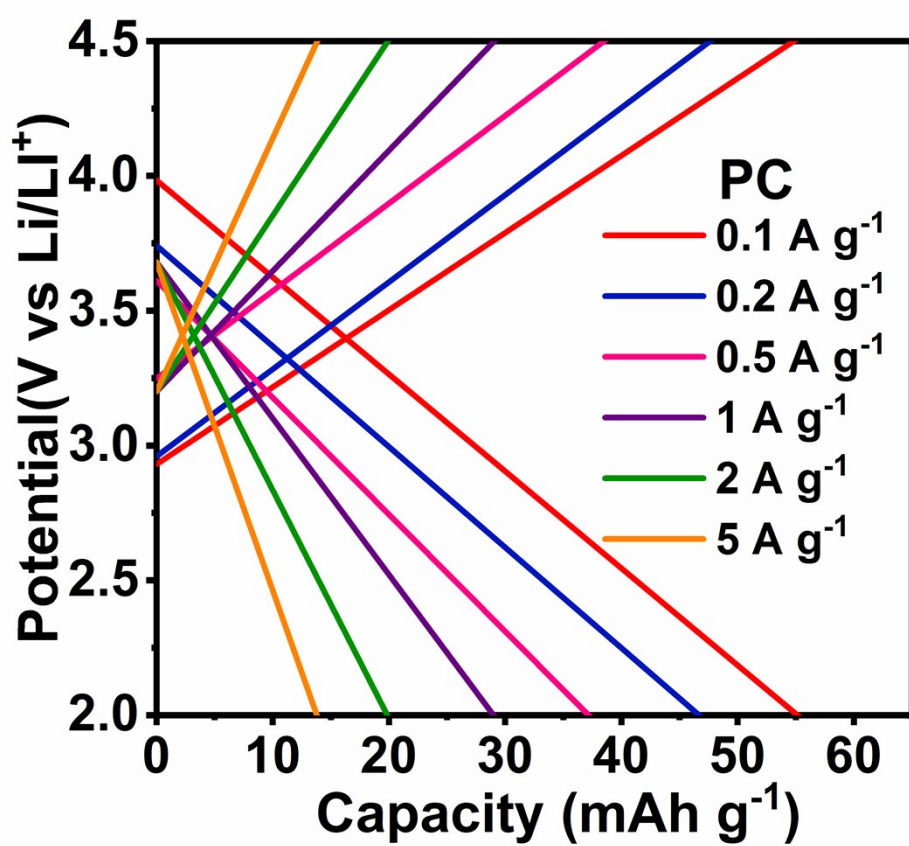


Figure S3. The charge-discharge curves of PC.

Table S1. Ratios of oxygen-containing functional groups for OHPC and PC in O 1s XPS spectrum.

Carbon materials	Ratio of quinone-type structure(%)	Ratio of carbonyl groups(%)	Ratio of hydroxyl(%)	Ratio of ester groups(%)
OHPC	13.4%	19.6%	21.8%	45.2%
PC	3%	48%	21%	28%

Table S2. The energy changes of lithium ion and PF_6^- before and after absorption

	GL	OH@GL	C=O@GL	COOC@GL
E_C	-4954.123448783	-5087.479253879	-5239.2411626160	-5657.8919080570
E_{APCLi}	-4961.925206	-5093.156455	-5255.92292	-5677.888268
E_{APCPF_6}	-9101.3285594490	-9216.6044488220	-9391.5596409210	-9806.0386459080
E_{A1Li}	-6.7817575892	-6.4472006772	-7.6817572072	-12.9963599102
$E_{\text{A2 PF}_6}$	-1.8668347940	16.2130809290	-6.9802024330	-2.8084619790