Supporting Information

Direct Laser Writing of Flexible Planar Supercapacitors Based on GO and Black Phosphorus Quantum Dots Nanocomposites

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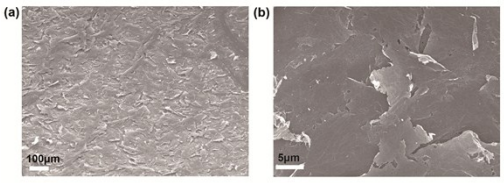

Fig. S1 SEM images of RGO.

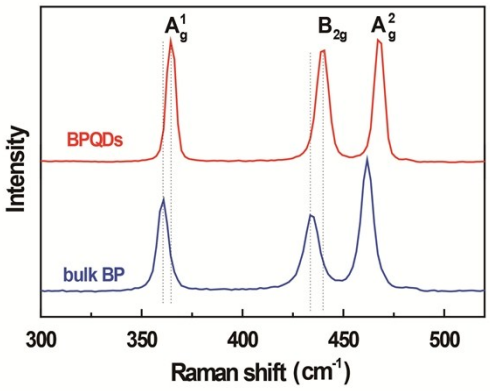

Fig. S2 Raman spectra of GO-BPQDs and R- GO-BPQDs.

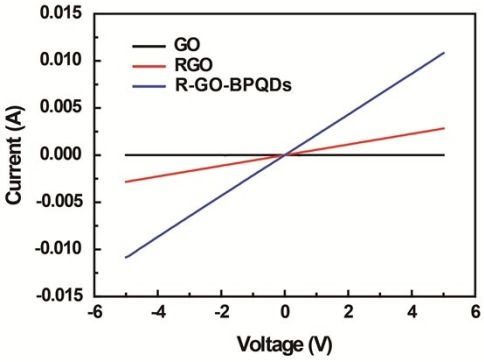

Fig. S3 I-V curves of GO, RGO and R-GO-BPQDs.

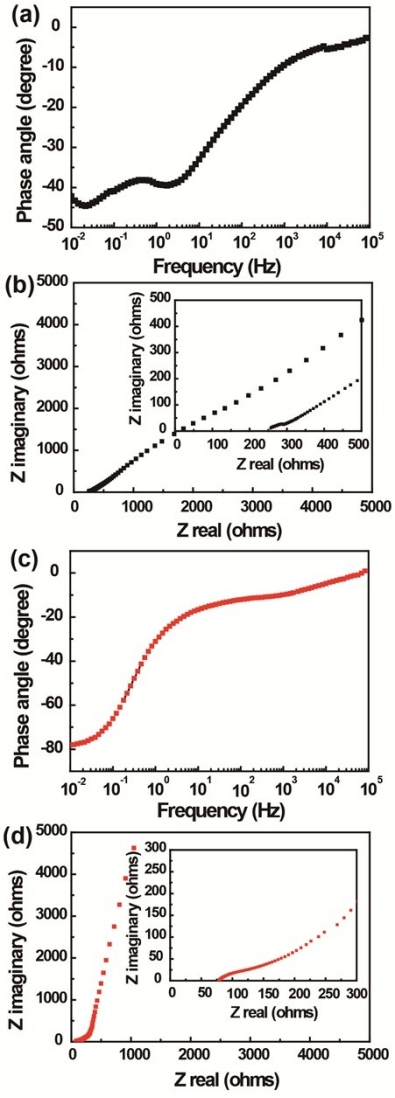

Fig. S4 Bode plots and Nyquist impedance plots of RGO (a, b) and R-GO-BPQDs (c, d) at frequency from 0.01 to 5000 Hz. The corresponding Rs values are 258 and 78 Ω, respectively.

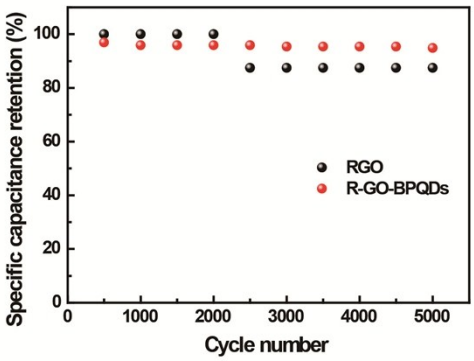

Fig. S5 Specific capacitance retention of supercapacitors based on RGO and R-GO-BPQDs after 5000 cycles (current density: 0.1 mA/ cm^2).

Table 1 Performance comparison of the R-GO-BPQDs based supercapacitor with the other related examples in recent literatures

Electrode materials	Strategies	Structure	Electrolyte	C_A (mF/cm^2)	Flexibility	Refs
Direct laser writing of GO	Direct laser writing	Planar	Graphite oxide	0.51	/	41
RGO	laser-scribe reduced	planar	H_2SO_4/PVA	2.32	97% (2000 cycles)	42
RGO	Plasma reduction	planar	H_2SO_4/PVA	0.322	99.1% (100000 cycles)	43
Electrochemically exfoliated graphene (EG)	Printable fabrication	planar	$EMIMBF_4$	1.94	/	18
EG /MnO_2 nanosheets /PH1000 (MP)	Printable fabrication	planar	LiCl/PVA	3.60	80.9% (5000 cycles)	18
rGO/Au nanoparticles	Situ femtolaser reduced	planar	H_2SO_4/PVA	4.92	80.3% (10000 cycles)	24
Graphene/carbon nanotube carpets	chemical vapor deposition	planar	1 M Na_2SO_4 $EMIMBF_4$	2.16 3.93	/ 98.4% (8000 cycles)	44
RGO R-GO-BPQDs	Direct laser writing	Planar	H_3PO_4/PVA H_3PO_4/PVA	1.87 5.63	/ 98.09% (1000 cycles)	This work