Supporting Information

Benzoxazole and Benzimidazole Heterocycle-grafted Graphene for High-performance Supercapacitor Electrodes

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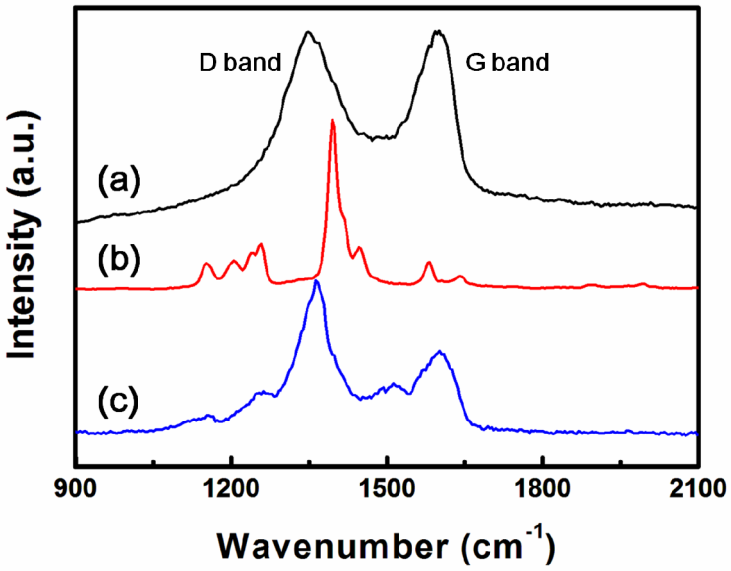

Fig. S1 Raman spectra of GO (a), BO-G (b) and BI-G (c).

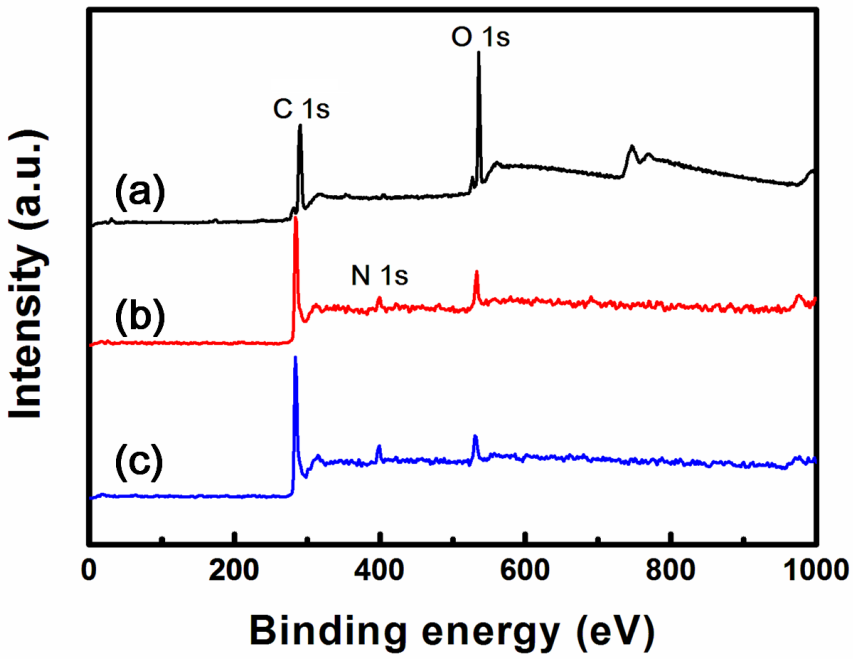

Fig. S2 XPS survey spectra of GO (a), BO-G (b) and BI-G (c).

Further evidence to confirm the functionalization and reduction of graphene comes from the XPS spectroscopic measurements. Fig. S2a shows a characteristic C 1s peak at ~284 eV for GO with the O

1s peak at ~531 eV. After the functionalization and reduction, a new peak at ~399 eV is observed in BO-G (Fig. S2b) and BI-G (Fig. S2c), which is ascribed to the N 1s peak that introduced through the functionalization.[1] Moreover, the decreased intensity of oxygen peak indicates the reduction of the functionalized GO. The total atomic ratio in the samples calculated from quantitative analysis of the XPS data are shown in Table S1.

Table S1. The elements content data of GO (a), BO-G (b) and BI-G (c).

Sample	C_{1s} (%)	N_{1s} (%)	O_{1s} (%)
GO	70.48	0	29.52
BO-G	82.90	7.30	9.80
BI-G	85.50	6.35	8.15

References

1. X. Li, H. Wang, J. T. Robinson, H. Sanchez, G. Diankov and H. Dai, *J. Am. Chem. Soc*, 2009, **131**, 15939.