

## *Supporting Information*

### **Investigation on heteroatom doped graphene ability for biorecognition**

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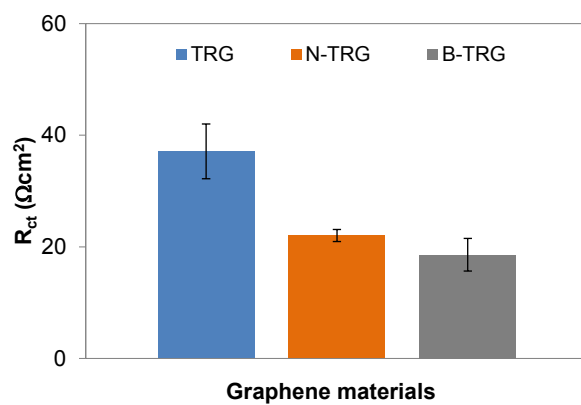


Figure S1. Impedimetric characterization of undoped thermally reduced graphene (TRG), nitrogen-doped thermally reduced graphene (N-TRG) and boron-doped thermally reduced graphene (B-TRG). Histograms represent the charge transfer resistance normalized by the electroactive surface area of TRG, N-TRG and B-TRG. All measurements were carried out in 0.1 M PBS buffer solution containing 10 mM  $\text{K}_3[\text{Fe}(\text{CN})_6]/\text{K}_4[\text{Fe}(\text{CN})_6]$ .

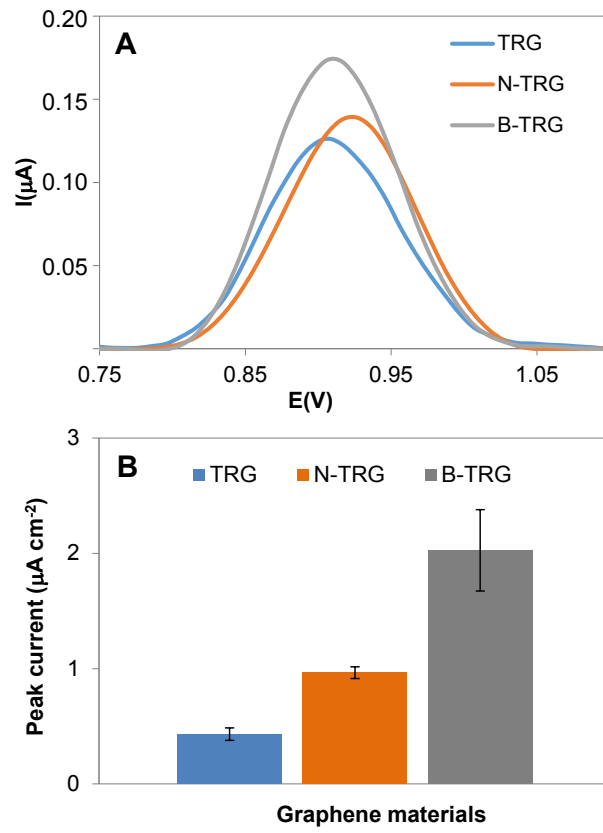


Figure S2. Differential pulse voltammetry (DPV) measurement for FB<sub>1</sub> aptamer on TRG, N-TRG and B-TRG. A: DPV signal for guanine peak. B: histograms representing peak current per square surface area unit.