

**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 K$_3$[Fe(CN)$_6$]/K$_4$[Fe(CN)$_6$].
Figure S2. Differential pulse voltammetry (DPV) measurement for FB₁ aptamer on TRG, N-TRG and B-TRG. A: DPV signal for guanine peak. B: histograms representing peak current per square surface area unit.