

Supplementary Information

**Electrochemical DNA sensor Based on Polyaniline/graphene:
High Sensitivity to DNA Sequences in a Wide Range**

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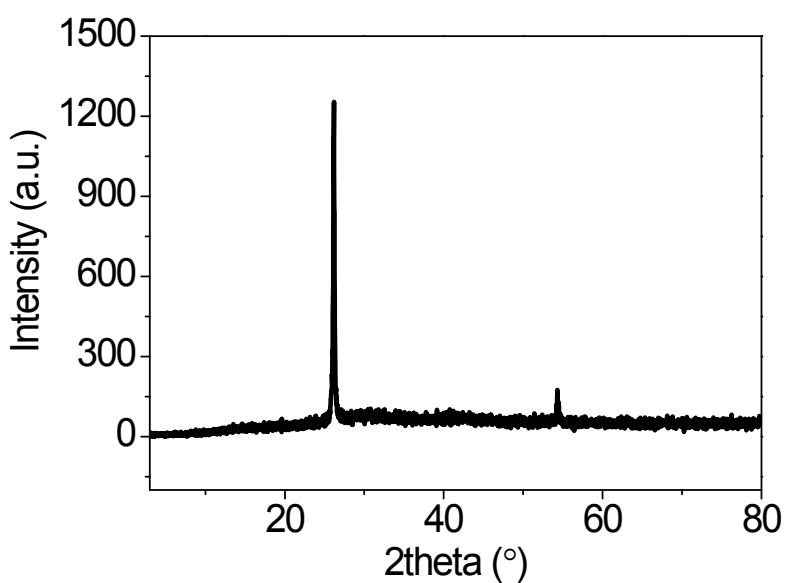


Fig. S1. XRD spectra of few-layer graphene.

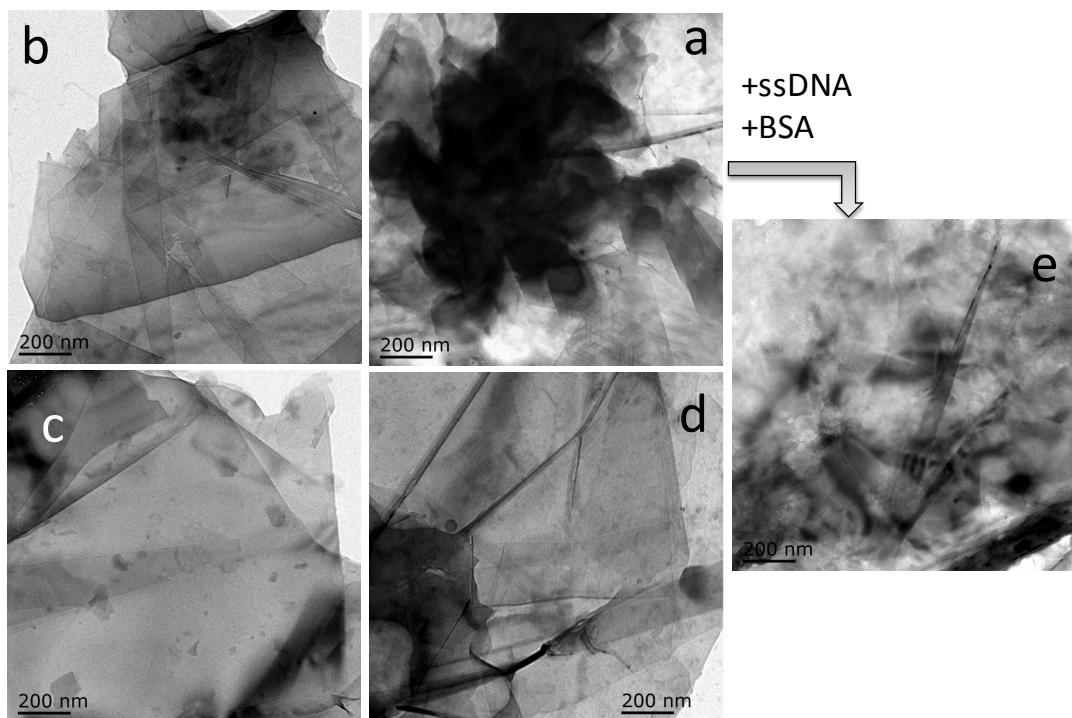


Fig. S2. The morphology of the hybrid of polyaniline and graphene. The mass proportions of polyaniline and graphene are 1:2 (a), 1:10 (b), 1:20 (c) and 1:100 (d), respectively. The morphology image of ssDNA and BSA modified electrode on sample a (e).

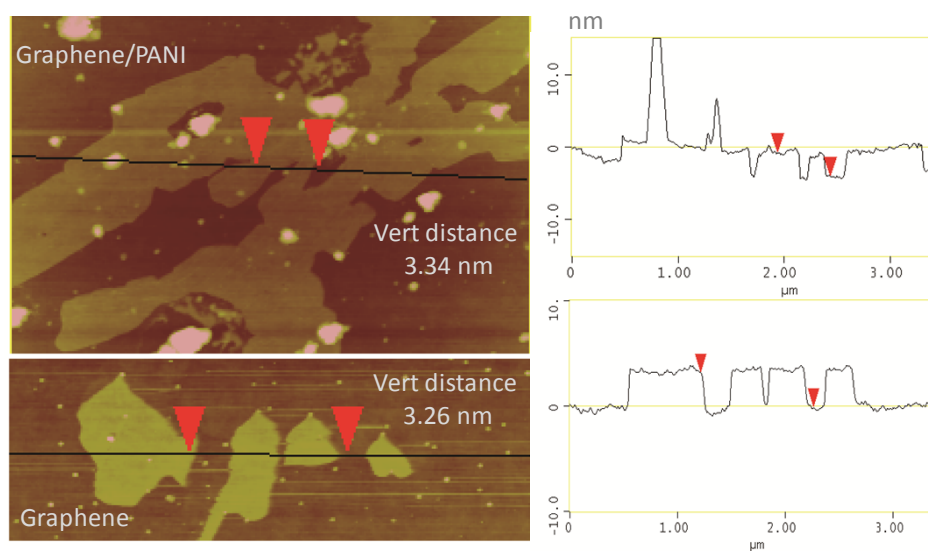


Fig. S3. AFM image and height profile of G/P and G.

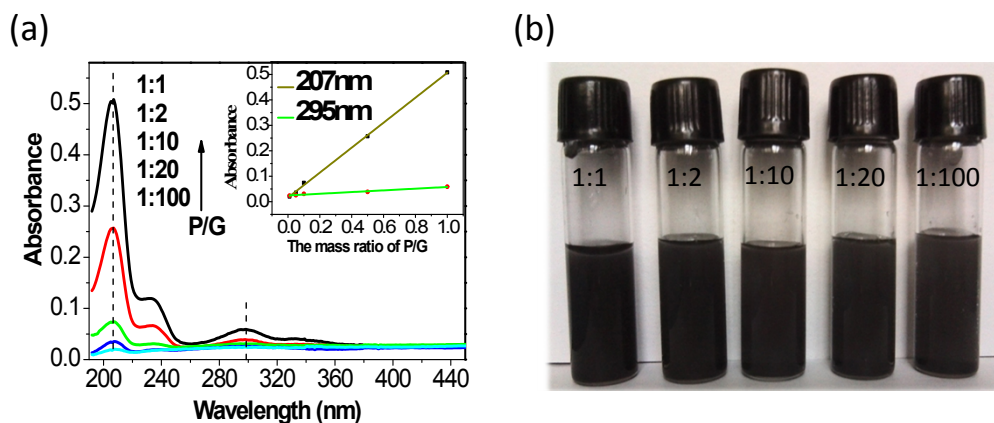


Fig. S4. (a) The UV-vis spectra of the hybrids of polyaniline/graphene at various ratios. The inset refers to the linear relationship of absorbance at the peak of 207 nm and 295 nm and the mass ratio of polyaniline/graphene. (b) The image of the samples before it was diluted.

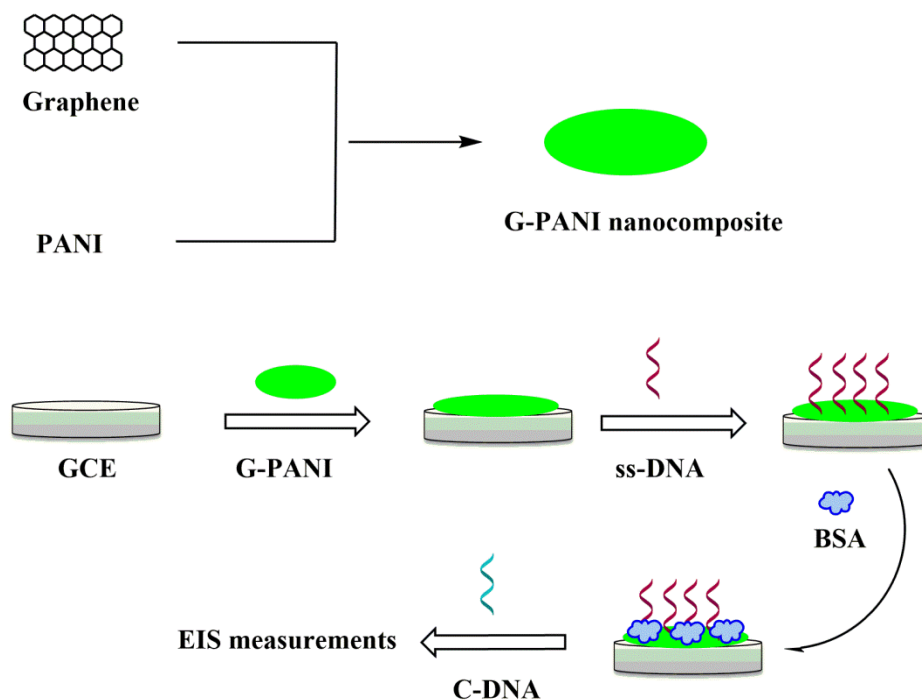


Fig. S5. Scheme for the synthesis procedures of the electrode

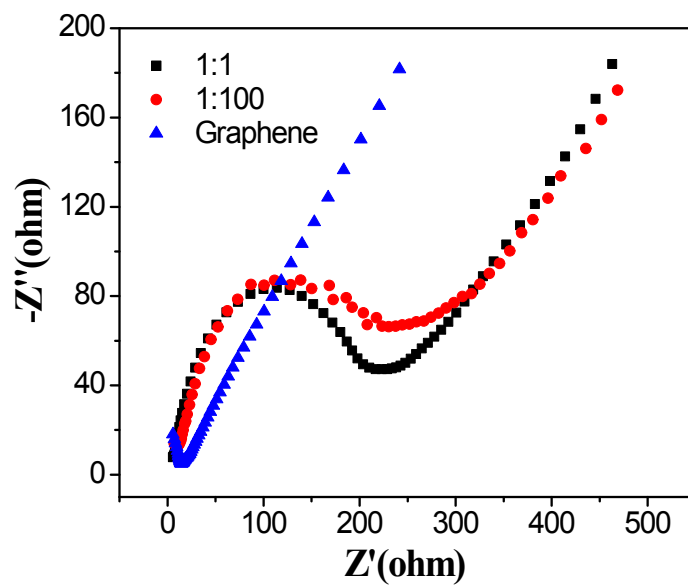


Fig. S6. Nyquist plots for P/G_{1:1}, P/G_{1:100}

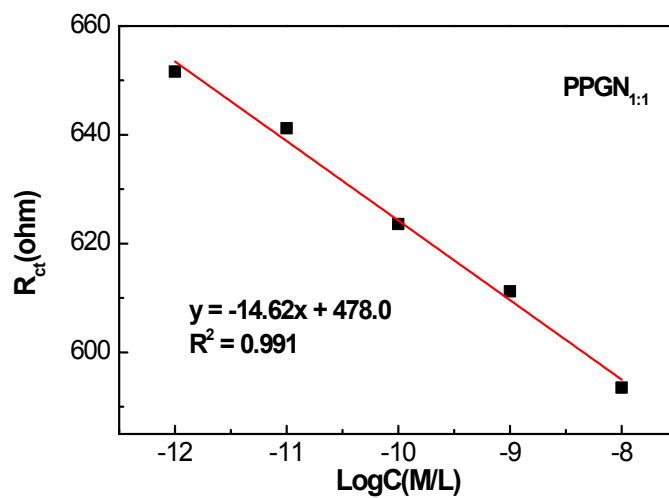


Fig. S7. The plot of $\log C$ against the R_{ct} of the complementary DNA fragments (Without BSA self-assemble, PPGN_{1:1} DNA sensor)

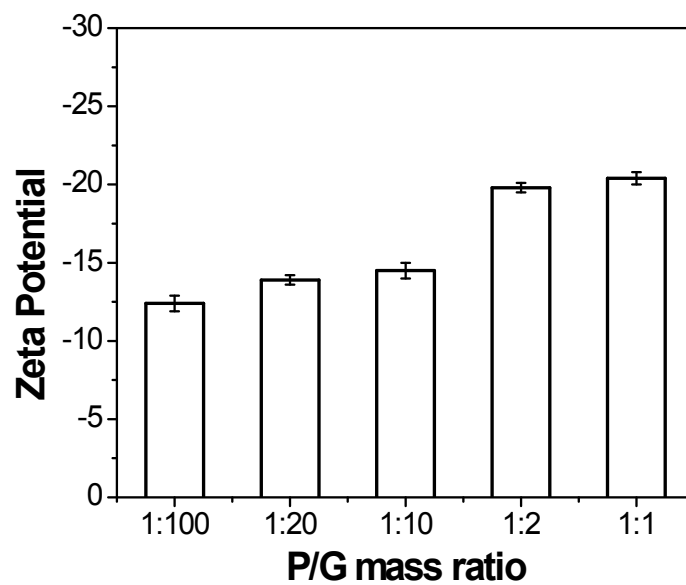


Fig. S8. The zeta potential of ss-DNA, BSA modified P/G composites. The mass proportions of polyaniline and graphene are, 1:100, 1:20, 1:10, 1:2 and 1:1, respectively.