Electronic supplementary information

Graphene oxide enhanced specificity at aptamer and its application to multiplexed enzymatic activity sensing

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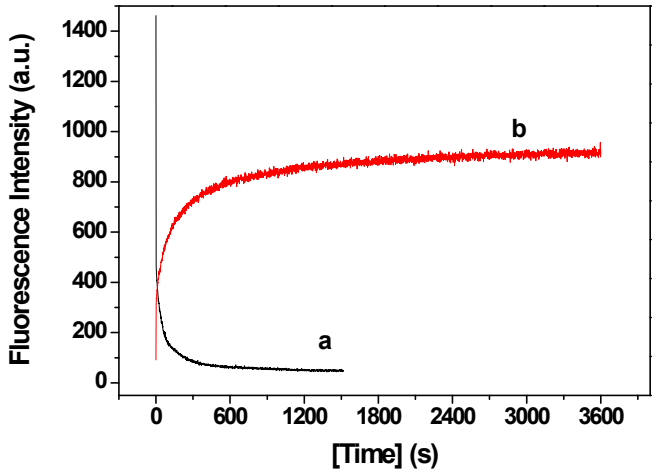

Fig. S1 The fluorescence intensity of P (40 nM) without (a) and with (b) AD in the presence of 20 μg/mL GO as a function of time.

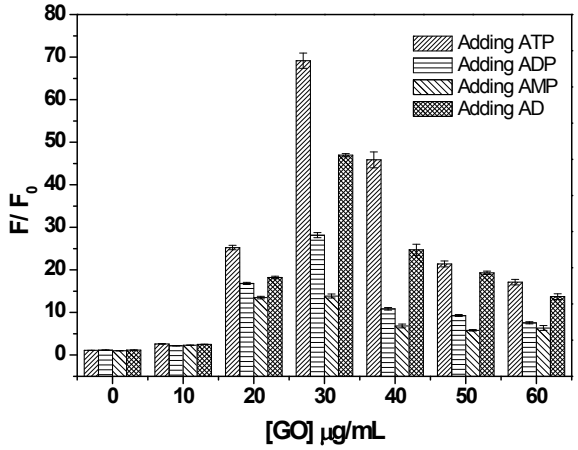

Fig. S2 Relative fluorescence intensity F/F_0 versus concentration of GO. F_0 and F are the fluorescence intensity at 520 nm without and with ATP or its analogues. [P] = 40 nM; [ATP] = [ADP] = [AMP] = [AD] = 500 μM.

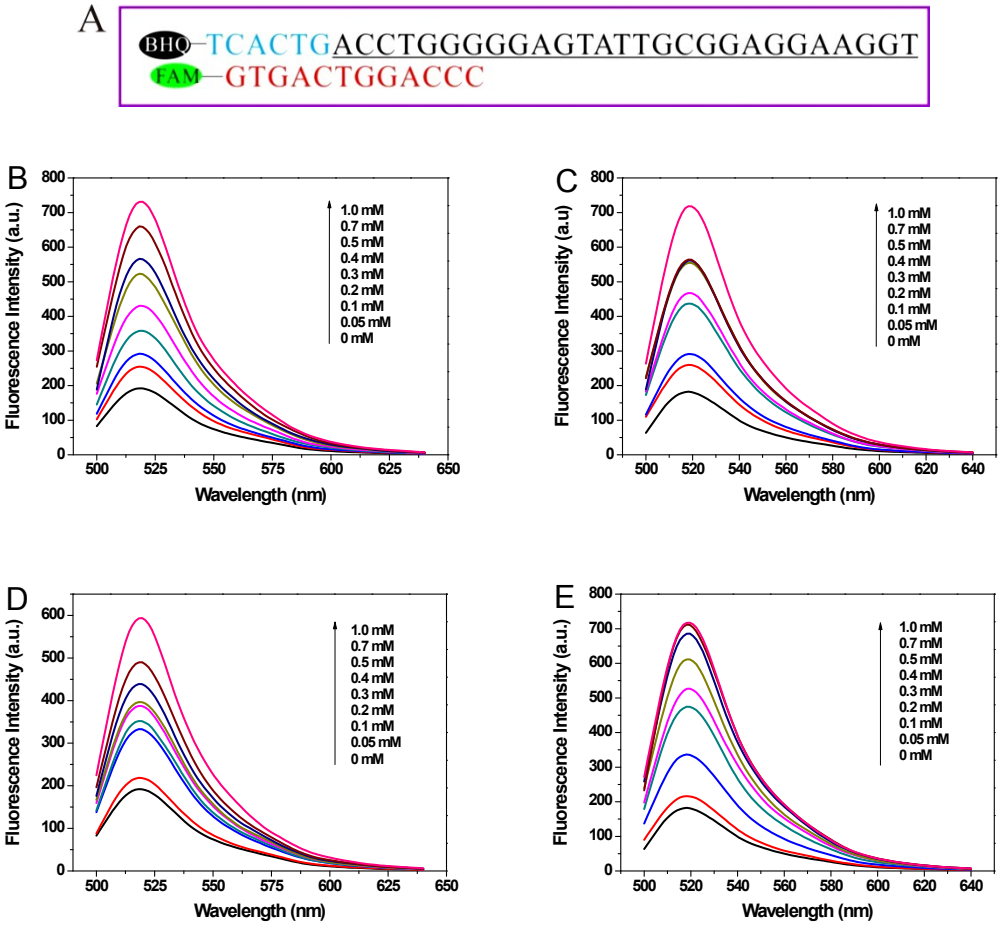

Fig. S3 (A) Strategy based on structure-switching for ATP detection. (B-E) Fluorescence spectra of the detection system in the presence of different concentrations of ATP, ADP, AMP and AD, respectively.

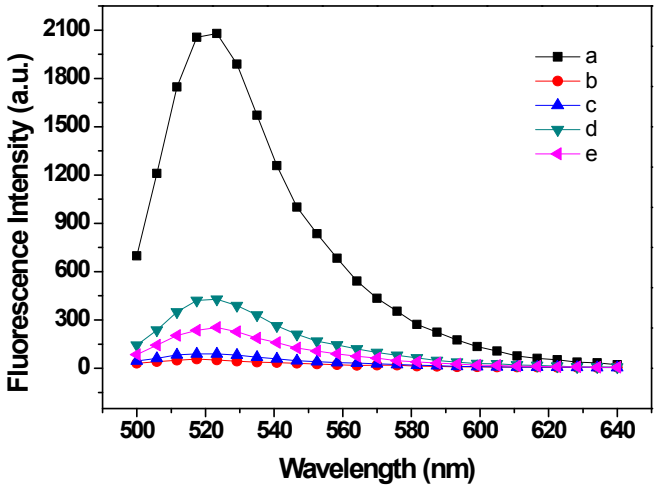

Fig. S4. Fluorescence spectra of the assay system under different conditions: (a) P; (b) P + GO; (c) P + GO +AMP; (d) P + GO + AD; (e) P + GO + AMP + ALP. [P] = 40 nM, [GO] = 40 μg/mL, [AMP] = [AD] =500 μM, [ALP] = 45 U/L.

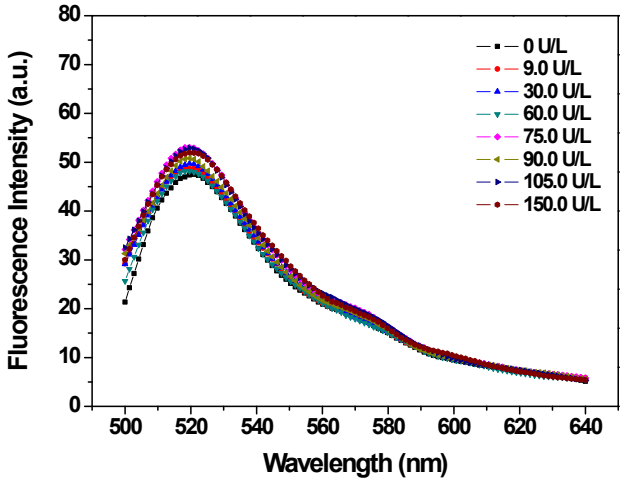

Fig. S5 The relatively fluorescence intensity of P/GO complex after incubation with different concentrations of inactive ALP (F_0 and F are the fluorescence intensities in the absence and presence of ALP, respectively). [P] = 40 nM, [GO] = 40 μg/mL, [AMP] = 500 μM.

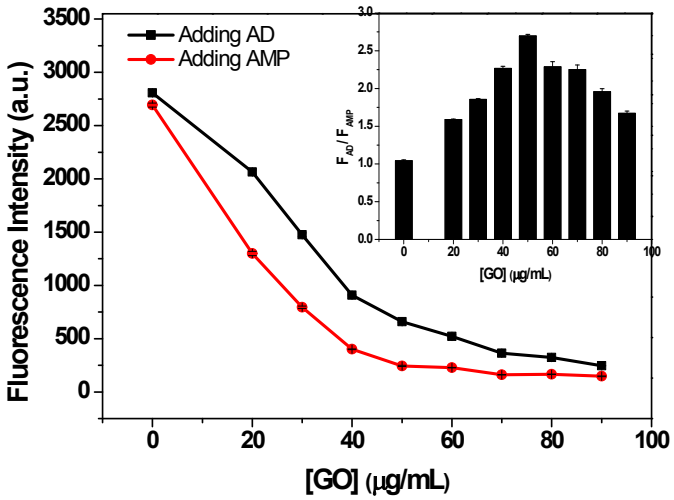

Fig. S6 Effect of GO concentration on the fluorescence intensity of P in 2 % human serum with AMP or AD. Inset: Relative fluorescence intensity under different concentrations of GO in 2 % human serum (where F_{AD} and F_{AMP} are the fluorescence intensity of the detection system in the presence of AD or AMP).

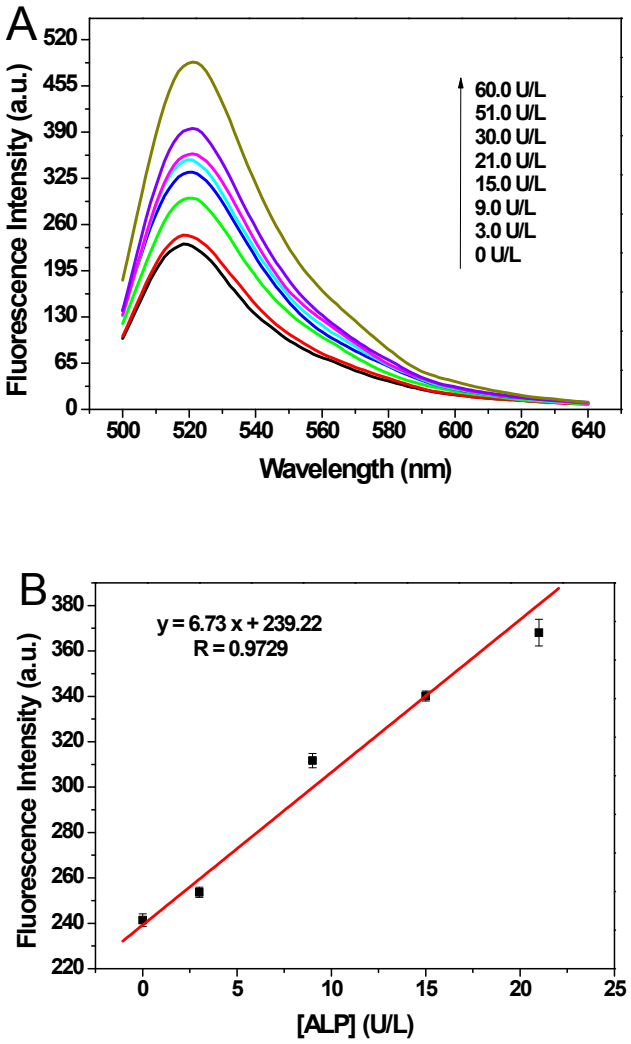

Fig. S7 (A) Fluorescence spectra of P/GO complex in the presence of different concentrations of ALP in 2 % human serum. (B) Linear relationship between the fluorescence intensity and ALP concentrations in 2 % human serum.