Electronic Supplementary Material (ESI) for Analytical Methods.

Electronic Supplementary Information

A novel label-free biosensor based on self-assemble aptamer/GO architecture for sensitive detecting of biomolecules

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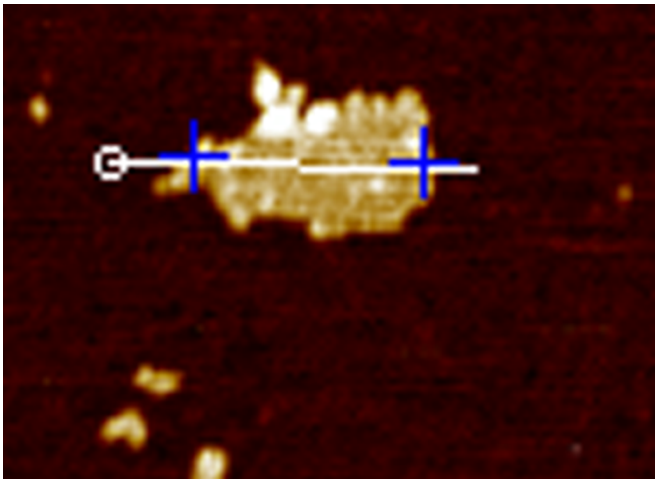
Table S1. Sequences of DNA oligonucleiotides

Name	Sequences（5′-3′）
Thrombin aptamer probe (P1)	CTAACCGTAAGGGTTAGGGTTAGGGTTAGGGAGTCCGTGGTAGGGCAGGTTGGGGTGACTTACGGTTAG
AMP aptamer probe (P2)	GGGTAGGGCGGGTTGGGAACCTTCCTGGGGGAGTATTGCGGAGGAAGGTTCCC
Control probe(P3)	GGGTTGGGCGGGATGGGCTAAGTAAATCTACGAATTCATCAGGGCTAAAGAGTGCAGAGTTACTTAGCCC

Fig. S1. AFM image and associated height profile of GO nanosheets.



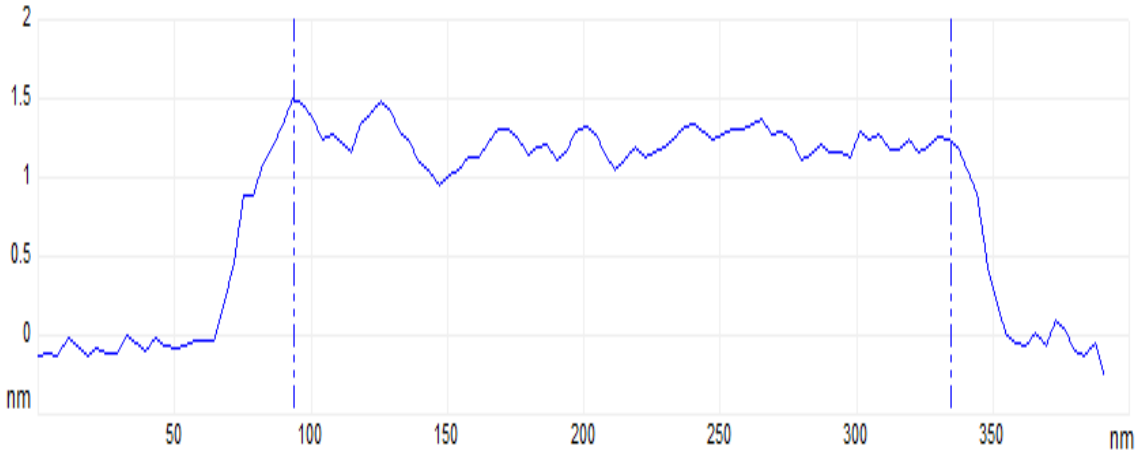


Fig. S2. Selectivity of the proposed aptamer/GO-based platform for thrombin detection. The concentrations of the analytes were 100 nM. Blank correspond to fluorescence intensity of the background signal (P1 100 nM, GO 10 μg mL^{-1}, ThT 2 μM).

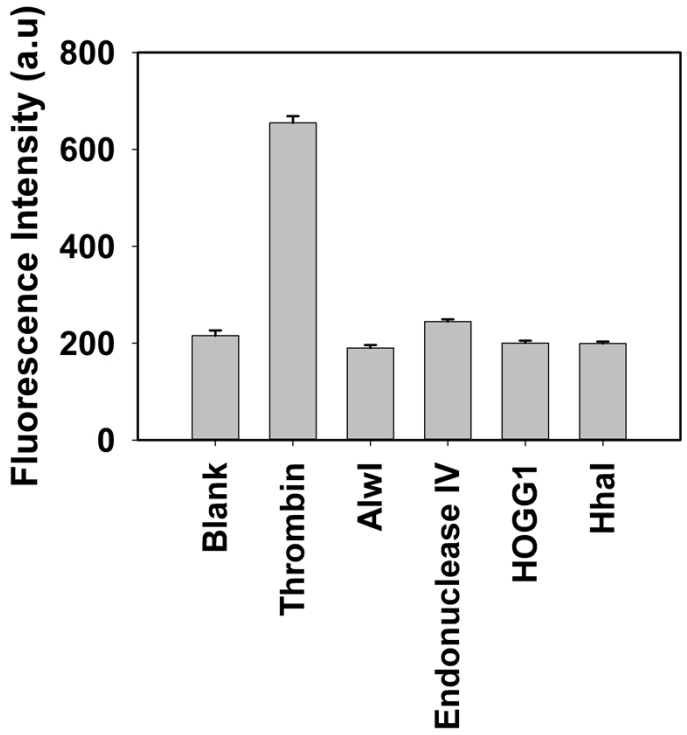


Fig. S3. Fluorescence emission spectra of P2 under different conditions: (a) P2 + GO + ThT + AMP; (b) P2 + GO + ThT (GO 10 μg mL^{-1}, ThT 2 μM, P2 100 nM, AMP 5 mM).

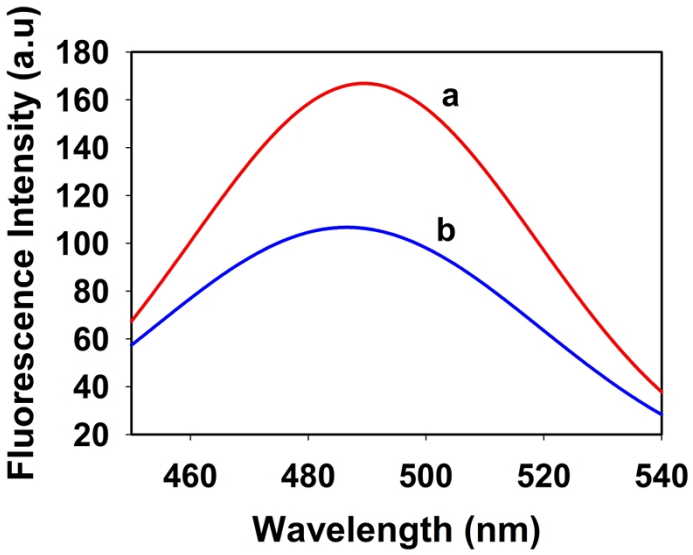


Fig. S4. Fluorescence intensity histogram of P2 + GO + ThT (black) and P2 + GO + ThT+ AMP (gray) in the presence of 0.2, 0.4, 1, 2 and 4 μM ThT (P2 100 nM, GO 4 μg mL^{-1}, AMP 5 mM).

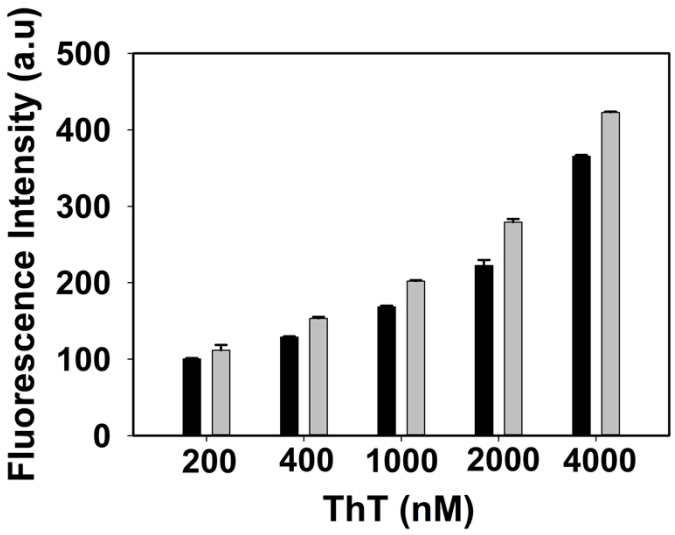


Fig. S5. Fluorescence intensity histogram of P2 + GO + ThT (black) and P2 + GO + ThT+ AMP (gray) in the presence of 1, 2, 4, 8, 10 and 15 μg mL^{-1} GO (P2 100 nM, ThT 2 μM, AMP 5 mM).

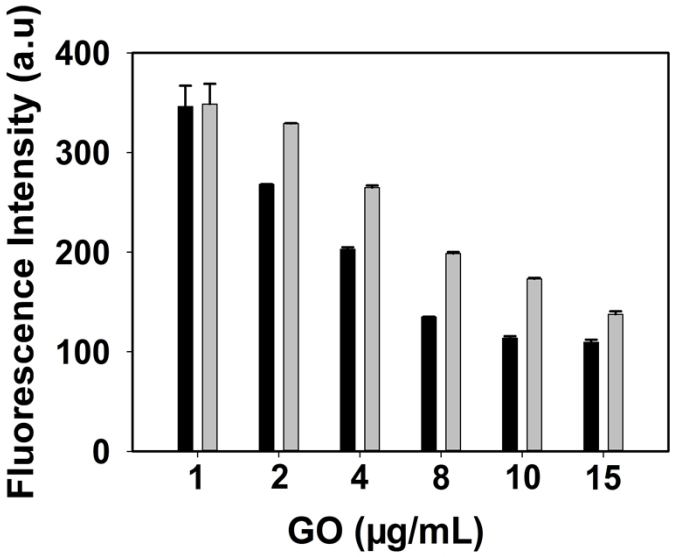


Fig. S6. Selectivity of the proposed aptamer/GO-based platform for AMP detection. The concentrations of the analytes were 5 mM. Blank correspond to fluorescence intensity of the background signal (P2 100 nM, GO 10 μg mL^{-1}, ThT 2 μM).