Supporting Information

A homogenous "signal-on" aptasensor for antibiotics based on single stranded DNA binding protein-quantum dot aptamer probe coupling exonuclease-assisted target recycling for signal amplification

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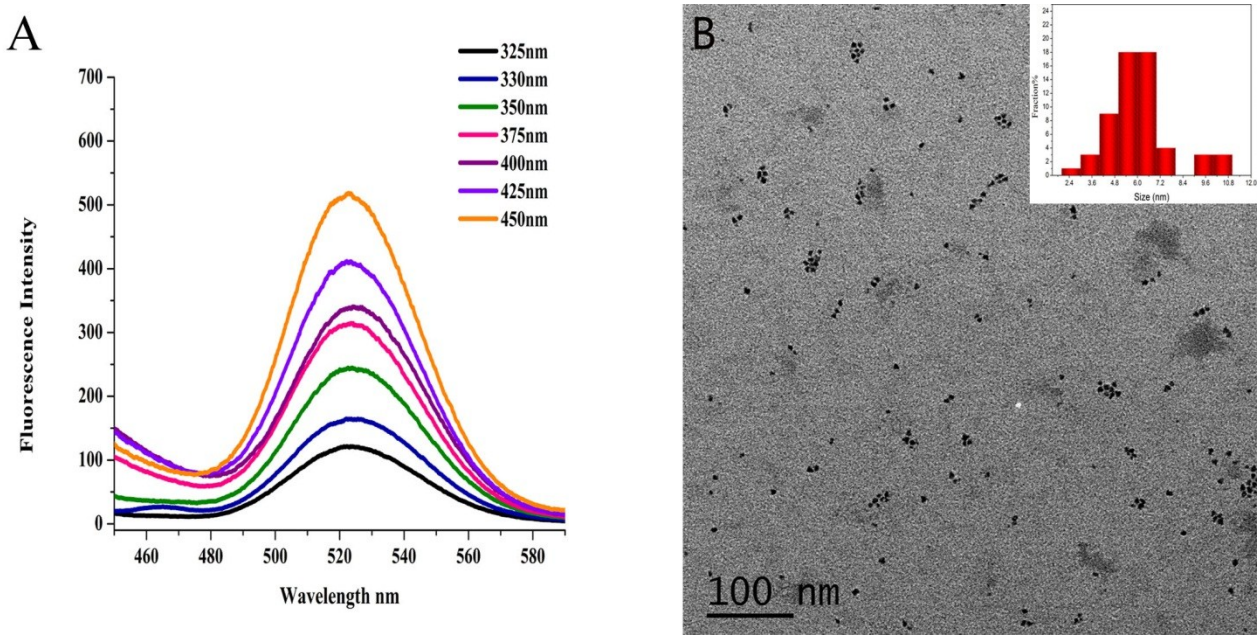

Fig. S1 Characterization of the CdSe quantum dots; (A) the emission spectra of CdSe QDs under different excitation wavelength. (B) TEM image of the QDs (the inset represents the pore size distribution of QDs

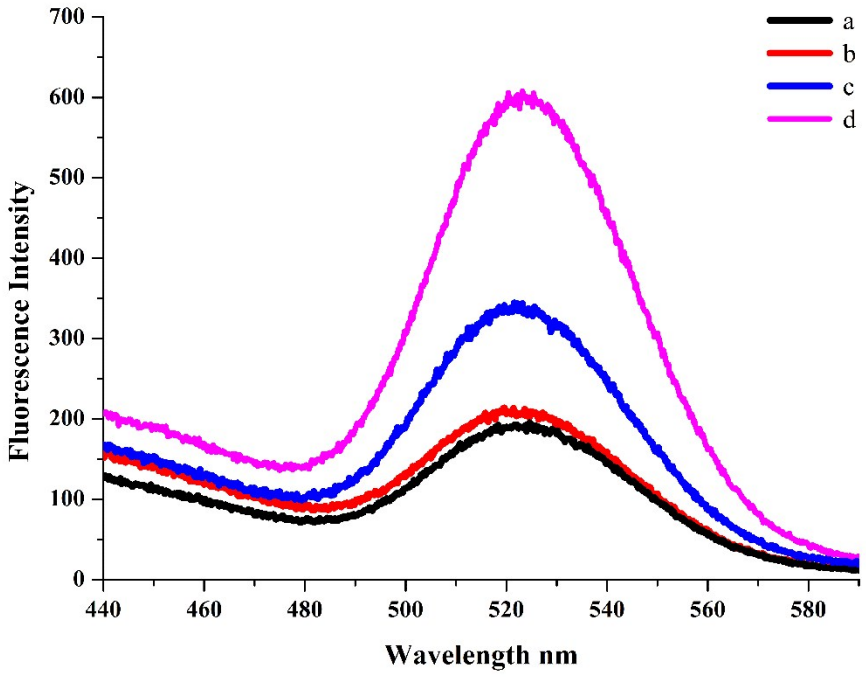

Fig. S2 The fluorescence responses of the aptasensor without STR using aptamer as bridging media (QDS@Aptamer@QDs) (a), without STR using random sequence as bridging media (QDS@) Random sequence@QDs) (b), adding 20nM STR(c)(QDS@Aptamer@QDs@STR), adding 20nM STR in the presence of exonuclease I (QDs@)Aptamer@QDs@STR@Exo-1 (d).

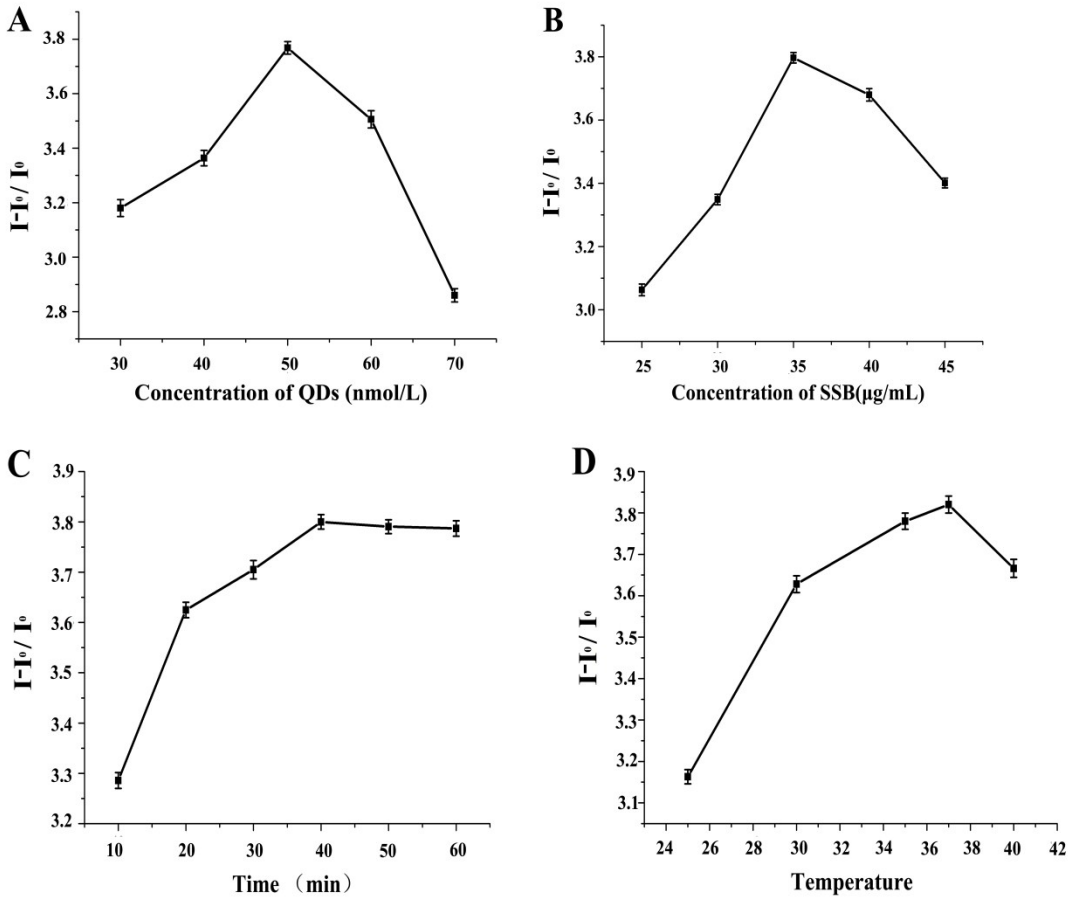

Fig. S3 Explored the best experimental conditions of concentration of QDS（A） and SSB(B)，reaction time(C)，reaction temperature(D)

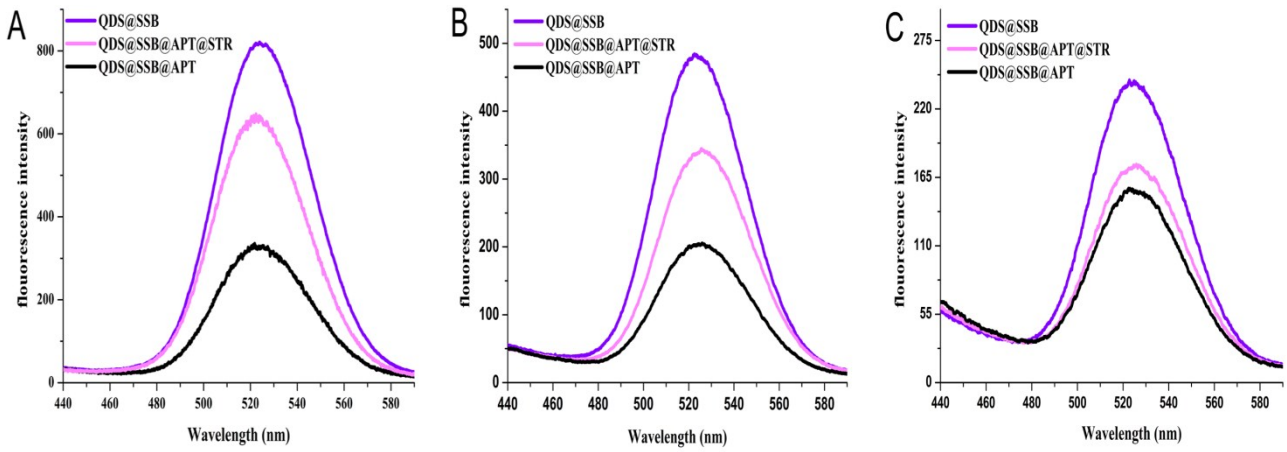

Fig. S4 (A) Emission spectra of the reaction system after addition of STR for the first cycle. (B) For the fourth cycle through adding STR based on the proceeding system. (C) For the eighth cycle through adding STR based on the proceeding solution.

Table S1 The assay compared with other methods for the detection of STR.

Method	Target analyte: STR (ng mL^{-1})		Reaction time with target (min)	Reference
	Linear range	LOD		
MIP-CP voltametric sensor	0.32–32	0.1	-	[1]
Chemiluminescenceimmunoassay	10-100	0.04	60	[2]
Electrospray ionization mass spectrometry	1-5000	-	-	[3]
Enzyme immunoassay	0.08-100	0.52	45	[4]
This work	0.01-100	0.03	40	This work

Note: The symbol '-'suggest that the result could not be clearly stated in the article.

References

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