

Supplementary Material

Fluorescent assay for carbendazim determination using aptamer and SYBR Green I

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3.3. Optimization of the experimental conditions

(a) Type of Buffer

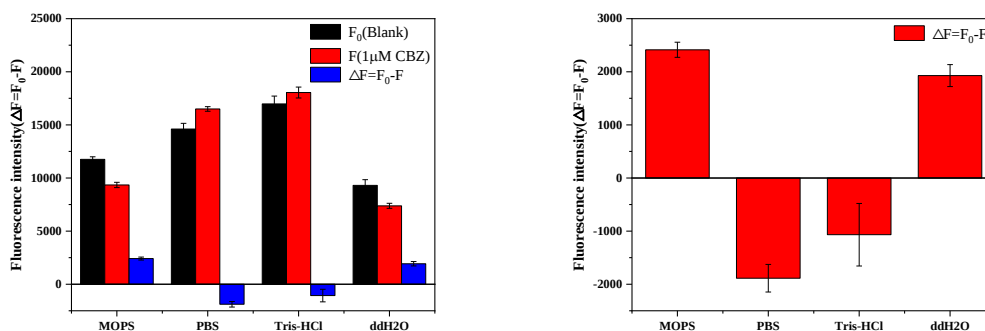


Fig.S1. Effect of different buffer solutions on ΔF ($F_0 - F$). Experimental conditions: 25 °C, 1x SYBR Green I (SG-I), 50 nM aptamer, 1 μ M CBZ and buffers: 3-(N-Morpholino) propanesulfonic acid (MOPS) (10 mM pH 7.0), Polybutylene succinate (PBS) (10 mM pH 7.4), Three hydroxymethyl aminomethane hydrochloride (Tris-HCl) (50 mM pH 7.4), Distillation-Distillation H₂O (ddH₂O)

(b) Optimization of the pH of Buffer

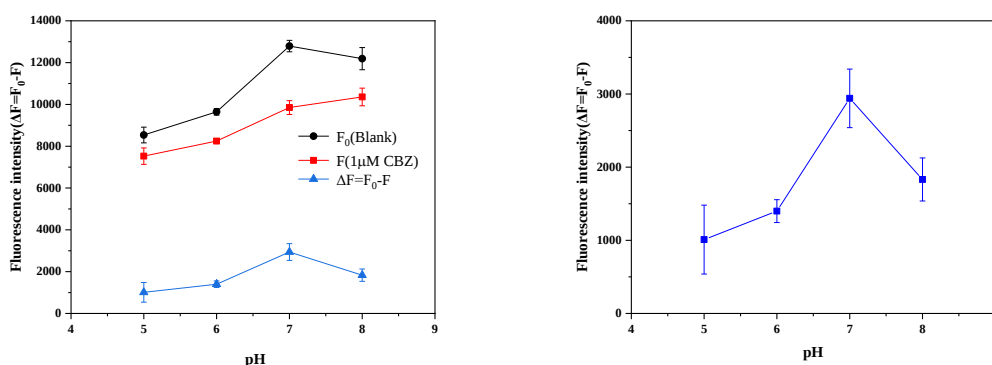
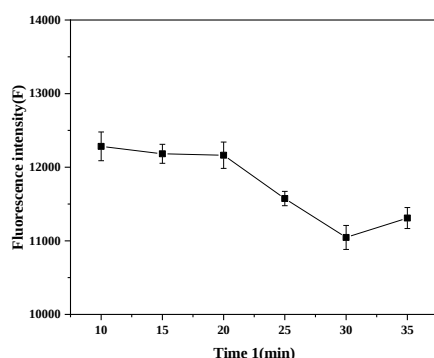


Fig.S2. Effect of the pH of the MOPS buffer on ΔF ($F_0 - F$). Experimental conditions: 25 °C, 1x SYBR Green I (SG-I), 3-(N-Morpholino) propanesulfonic acid (MOPS) buffer (10 mM, pH 5.0, 6.0, 7.0, 8.0), 1 μ M CBZ and 50 nM aptamer.

(c) Optimization of the reaction time

(1)



(2)

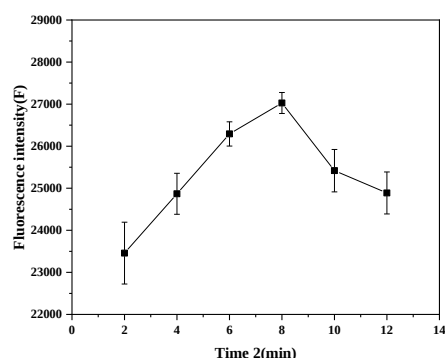


Fig.S3 (1). Effect of the reaction time between CBZ and aptamer (Time 1). Experimental conditions: 1x SYBR Green I (SG-I), 50 nM aptamer, 1 μ M CBZ, 3-(N-Morpholino) propanesulfonic acid (MOPS) buffer (10 mM, pH 7.0). (2). Effect of the reaction time between SYBR Green I (SG-I) and aptamer (Time 2). Experimental conditions: 1x SYBR Green I (SG-I), 50 nM aptamer, 3-(N-Morpholino) propanesulfonic acid (MOPS) buffer (10 mM, pH 7.0).

(d) Optimization of the concentration of SYBR Green I

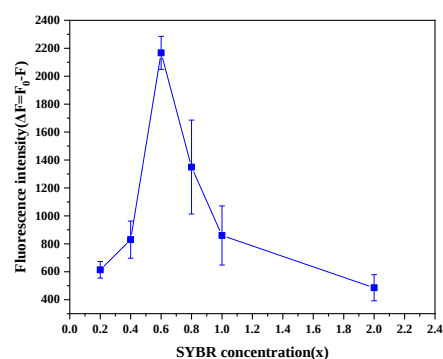
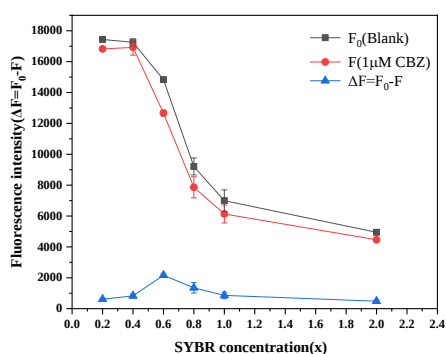


Fig.S4. Effect of the SYBR Green I (SG-I) concentration on ΔF ($F_0 - F$). Experimental conditions: 25 $^{\circ}$ C, SG-I of 0.2x, 0.4x, 0.6x, 0.8x, 1.0x, 1.2x, 1.4x, 1.6x, 1.8x and 2.0x, 3-(N-Morpholino) propanesulfonic acid (MOPS) buffer (10 mM, pH 7.0), 1 μ M CBZ and 50 nM aptamer.

(e) Optimization of the aptamer concentration

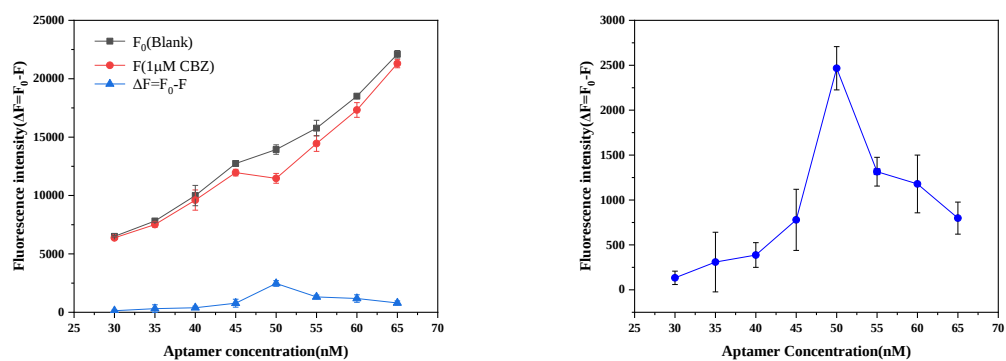


Fig.S5. Effect of the aptamer concentration on ΔF ($F_0 - F$). Experimental conditions: 25 °C, 0.6x SYBR Green I (SG-I), 3-(N-Morpholino) propanesulfonic acid (MOPS) buffer (10 mM, pH 7.0), 1 μ M ofloxacin and aptamer (30, 35, 40, 45, 50, 55, 60, 65 nM).