A portable fluorescent aptamer sensor for rapid quantitative detection of Hg^{2+}

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Section 1 Materials

Phi 29 DNA Polymerase, 10×Phi29 Buffer, T4 DNA Ligase, 10×T4 DNA Ligase Buffer, 10mM mixture Deoxy-ribonucleoside triphosphate (dNTP), agarose powder were purchased from Sangon Biotech (Shanghai) Co., Ltd. (Shanghai, China). Thioflavin T (ThT) was purchased from Shanghai Macklin Biochemical Co.,Ltd. (Shanghai, China). Hydrochloric acid (HCl) was purchased from Xilong Scientific Co., Ltd. (Guangdong, China). $HgCl_2$ was purchased from Tianjin Comio Chemical Reagent Co., Ltd. All oligonucleotides were diluted with 50 mM Tris-HCl buffer, and all reagents were thoroughly mixed before use, and the water used in the experiments was sterilised ultrapure water. The food samples, including tea was purchased from Yonghui supermarket in Zhengzhou, China.

The DNA strands and sequences used in this experiment are shown in Table S1.

Table S1. DNA strands and sequences used in this experiment.

Name	DNA sequence(5'-3')
Padlock	P-ATGATATGATCGTTGTCACTGCCTGCTTTTTTTTTTTTTTTTTTTTATGATGG
Primer	CGATCATATCATCCATCATAAAAA