A Supramolecular Probe for Pb^{2+} Detection Based on Recognition of G-quadruplex from Duplex DNAs

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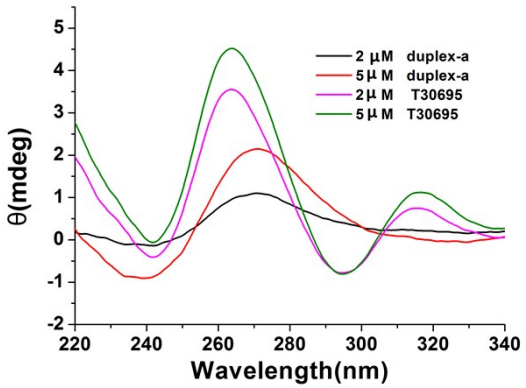

Figure S1. The CD spectra of 2 μM and 5 μM duplex-a in water. The CD spectra of 2 μM and 5 μM T30695 in the presence of 35 μM Pb^{2+}.

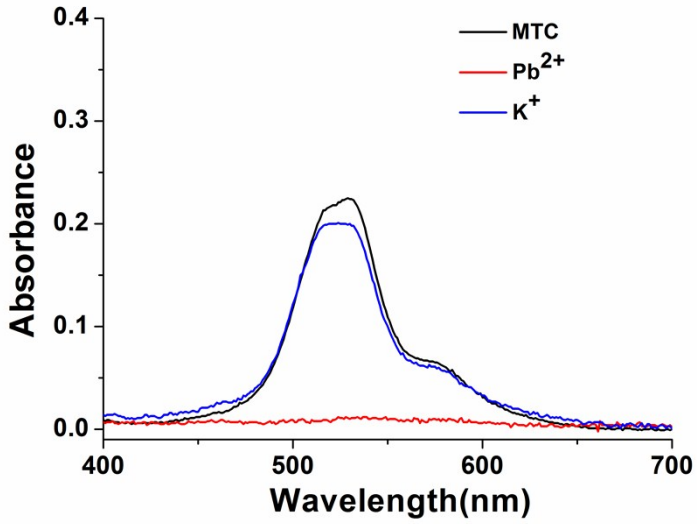

Figure S2. The absorption spectra of 4 μM MTC without metal ion, with 5 μM Pb^{2+} or K^{+}.

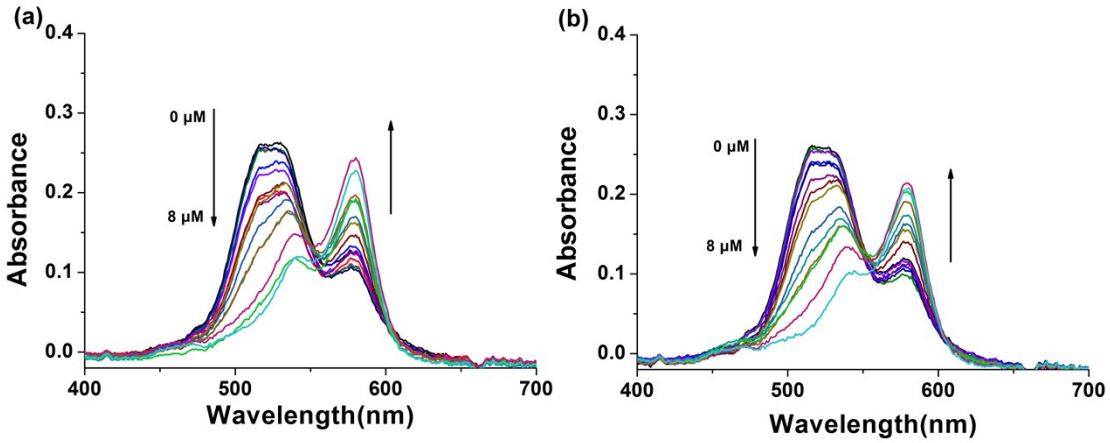

Figure S3. The two repetitive detection for Pb^{2+} experiments. Absorption spectra of 4 μM MTC and 2 μM duplex-a DNA with the increasing [Pb^{2+}].

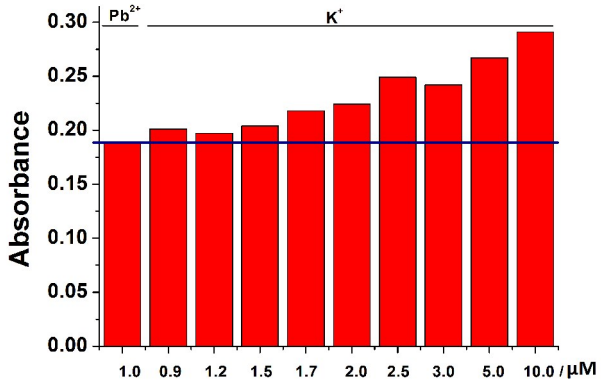

Figure S4. The absorption value at 580 nm of adding different concentrations of K^+ to 4 μM MTC and 2 μM duplex-a DNA in the presence of 1 μM Pb^{2+} .

Table S1. The computational detail of slope.

Concentration (nM)	10	60	90	250	750
Log_{10}(concentration)	1	1.78	1.95	2.40	2.88
A	0.211	0.198	0.197	0.188	0.175
A_0	0.247	0.247	0.247	0.247	0.247
1-(A/A_0)	0.146	0.198	0.202	0.238	0.292

We have chosen five concentrations as following, 10 nM, 60 nM, 90 nM, 250 nM and 750 nM. 1, 1.78, 1.95, 2.4, 2.88 were obtained when these values were calculated by Log_{10}. Then these five value were as X axes. The absorbance at 518 nm (Table S1, A) of 10 nM, 60 nM, 90 nM, 250 nM and 750 nM were 0.211, 0.198, 0.197, 0.188 and 0.175. A_0 represents absorbance at 518 nm of 4 μM MTC and 0.5 μM duplex-a without Pb^{2+}. The value of 1-(A/A_0) was calculated and obtained, which were used as Y axes. The slope of 0.07591 were obtained.

The value of σ was calculated from the standard deviation of three blank samples (absorbance at 518 nm, 0.082, 0.068, 0.099), which is 0.01522.