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Supplementary Information

A mRNA-Responsive G-Quadruplex-Based Drug Release System. *Sensors* 2015, *15*, 9388-9403

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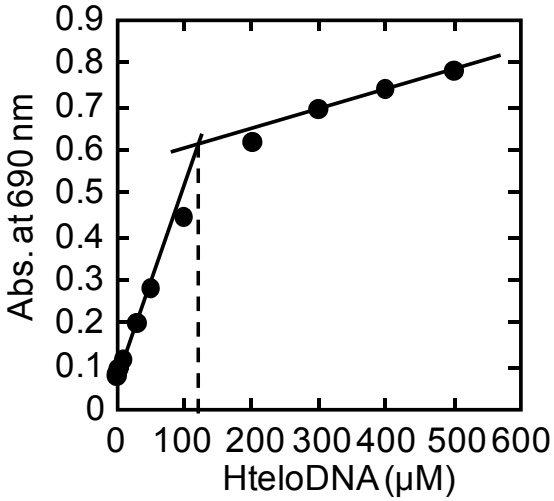

Figure S1. Change in absorbance at 690 nm of 100 μM Cu-APC with 0–500 μM Htelo-DNA in a buffer containing 50 mM MES-LiOH (pH 7.0), 100 mM KCl, and 10 mM $MgCl_2$ at 25 °C.

A B

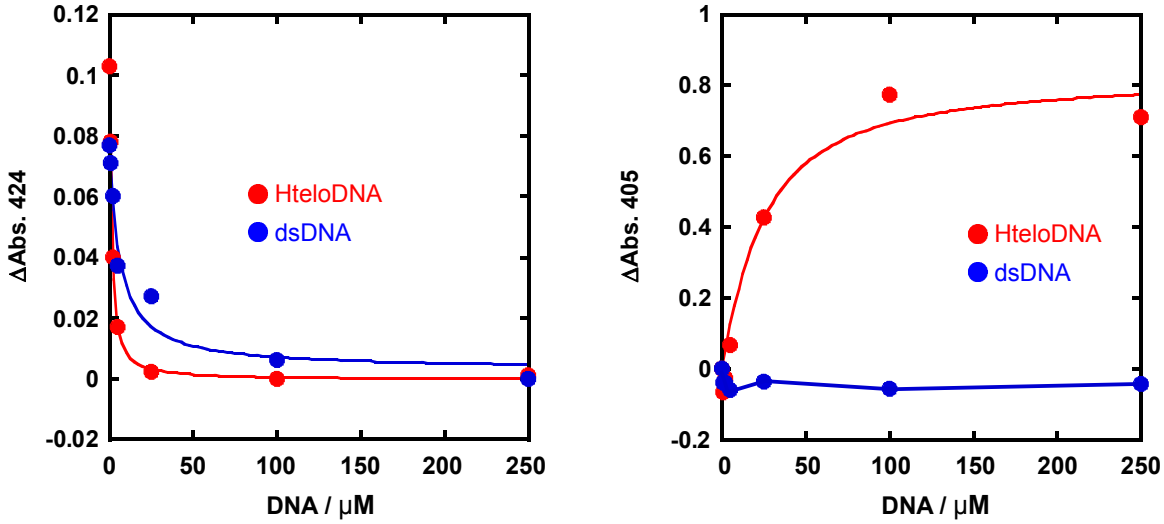

Figure S2. (**A**) Absorbance of 1.0 μM TMPyP4 at 424 nm (A) and 12.5 μM Hemin at 405 nm (**B**) with 0-250 μM of HteloDNA and 0–250 μM of dsDNA (5'-AGAAGAGAAAGA-3'/5'-TCTTTCTCTTCT-3'). Before measurement, the sample was heated at 80 °C for 2 min, gently cooled at 2 °C·min^{-1}. All measurements were carried out in a buffer containing 50 mM MES-LiOH (pH 7.0), 100 mM KCl, and 10 mM $MgCl_2$ at 25 °C.

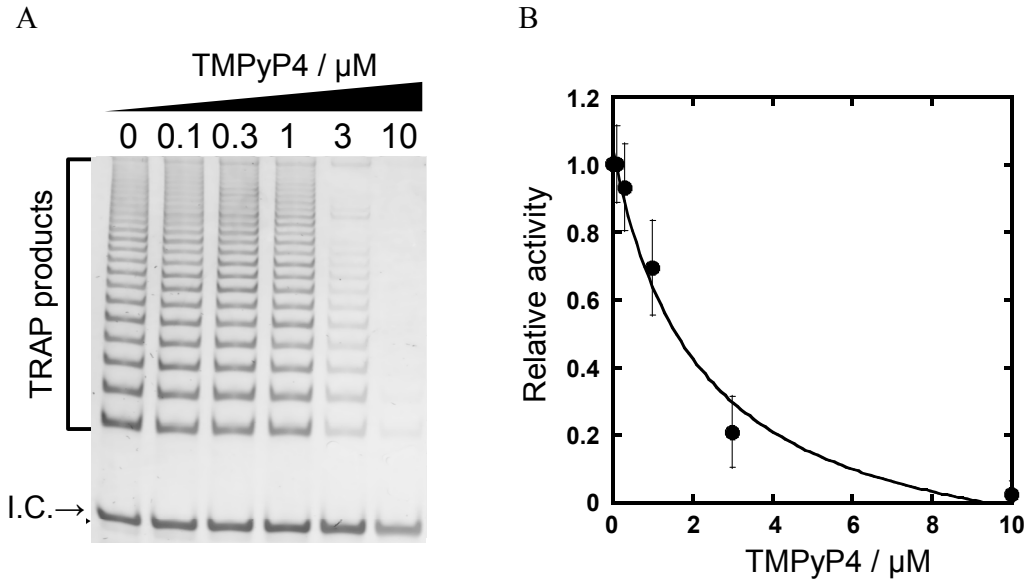

Figure S3. (**A**) Electrophoresis result of the two-step TRAP assay with 0–10 μM of TMPyP4. I.C. indicates the internal control for PCR amplification; (**B**) Relative activity of telomerase with 0–10 μM of TMPyP4. The relative activity value of 1 corresponds to the positive control, namely without TMPyP4.

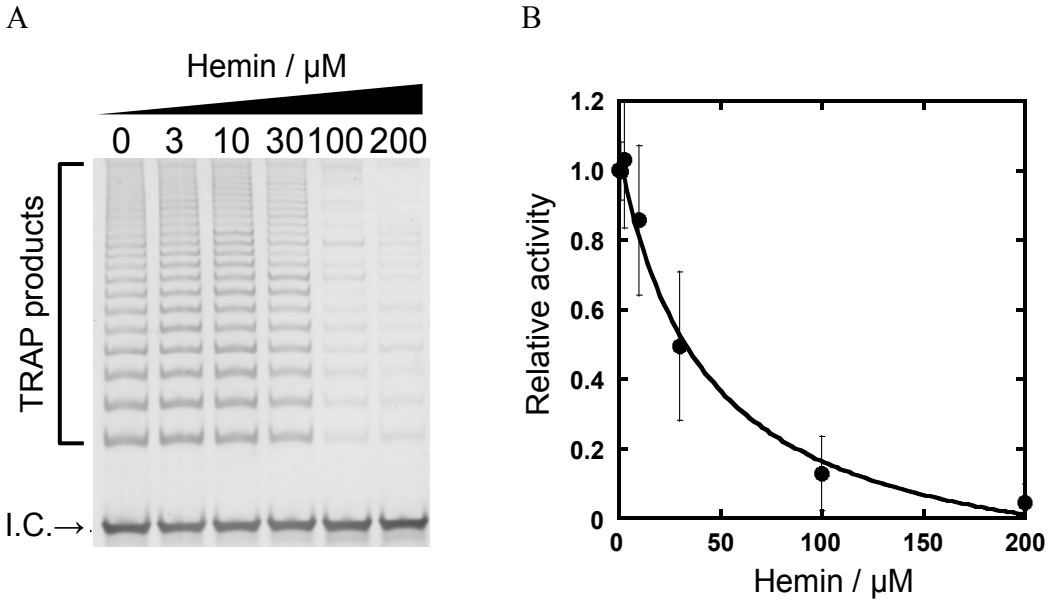

Figure S4. (**A**) Electrophoresis result of the two-step TRAP assay with 0–200 μM of Hemin. I.C. indicates the internal control for PCR amplification; (**B**) Relative activity of telomerase with 0–200 μM of Hemin. The relative activity value of 1 corresponds to the positive control, namely without Hemin.

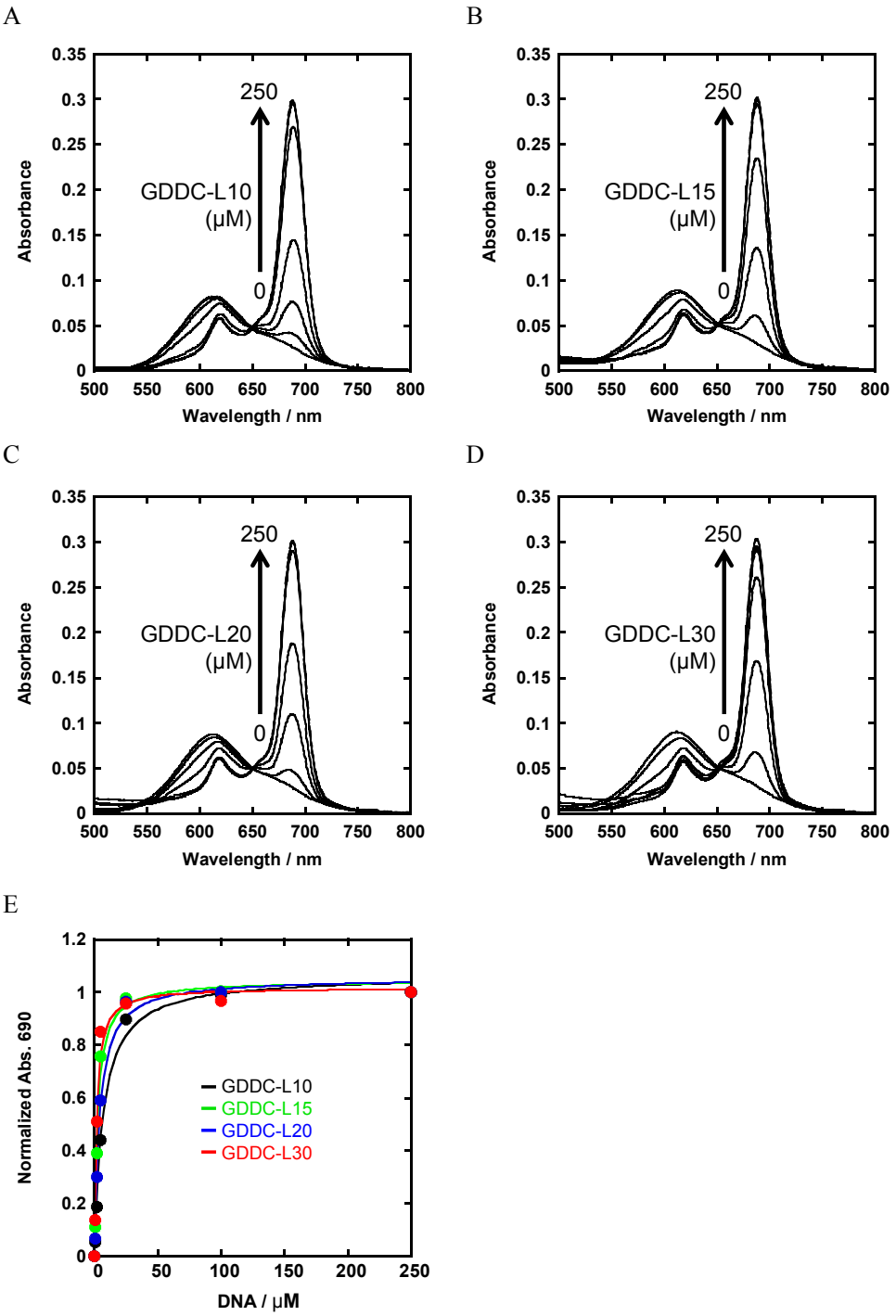

Figure S5. Visible absorbance spectra of 2.5 μM CuAPC with 0–250 μM of GDDC-L10 (**A**); GDDC-L15 (**B**); GDDC-L20 (**C**); and GDDC-L30 (**D**). Before measurement, the samples were heated at 80 °C for 2 min, gently cooled at 2 °C·min^{-1}; (**E**) Normalized absorbance of 2.5 μM CuAPC at 690 nm with 0–250 μM of each GDDC candidate. All measurements were carried out in a buffer containing 50 mM MES-LiOH (pH 7.0), 100 mM KCl, and 10 mM $MgCl_2$ at 25 °C.