Supporting Information

for

Sedimentation Velocity Analysis of TMPyP4-Induced Dimer Formation of Human Telomeric G-quadruplex

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Job plot

Two solutions containing 100 mM NaCl and 10 mM Tris-HCl (pH = 7.5) with the addition of 10.0 μM Tel22 and 10.0 μM TMPyP4 were prepared, respectively. And then the two solutions were mixed with a series volume ratios from 0 to 1. Absorption difference spectra were obtained by measuring the absorption spectrum for Tel22/TMPyP4 solution using the solution containing the same concentration of salt and TMPyP4 without addition of Tel22 as baseline. The two maximum difference at 441nm and 419 nm were plotted versus the mole fraction of TMPyP4 to generate a Job plot.

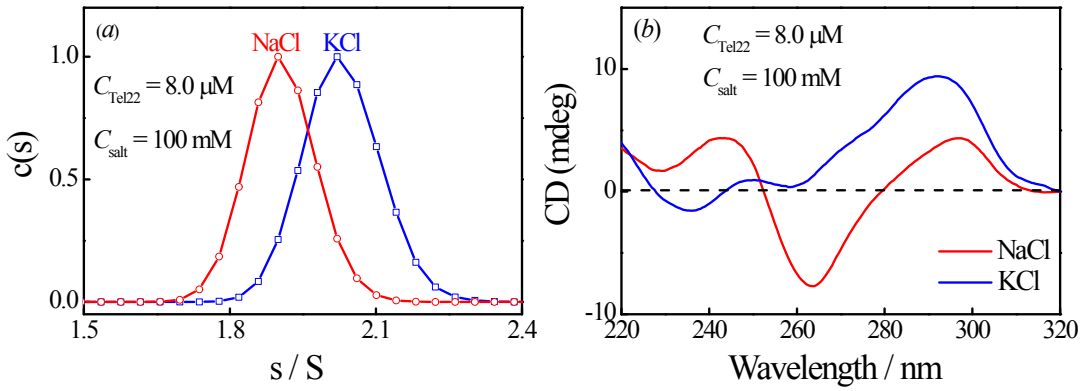

Figure S1. The sedimentation coefficient distributions (*a*) and CD spectra (*b*) of Tel22, where the concentrations of Tel22 and salt are 8.0 μM and 100.0 mM, respectively.

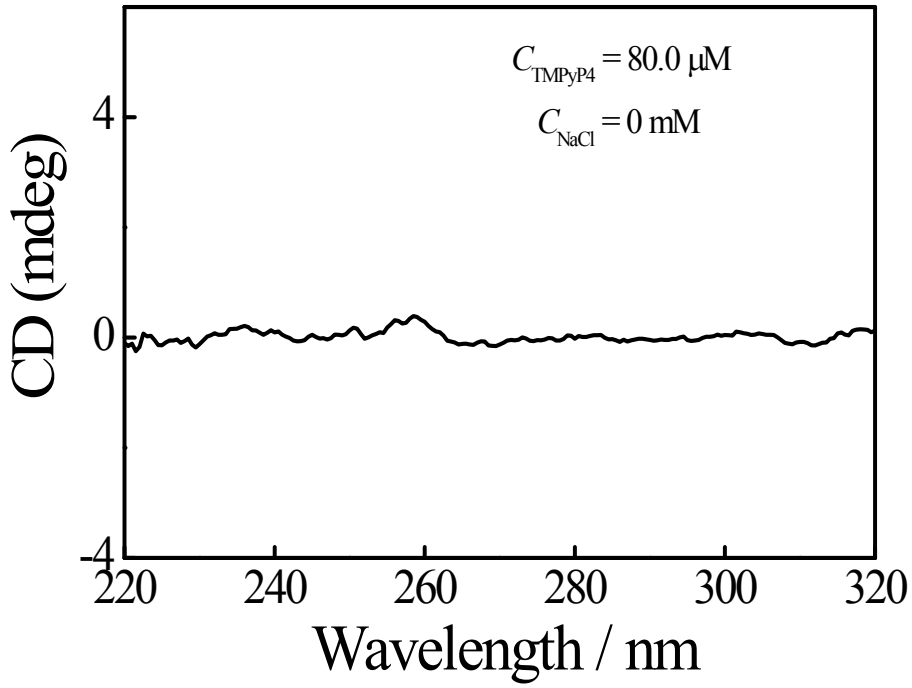

Figure S2. CD spectra of TMPyP4 solution containing 10 mM Tris/HCl with a pH of 7.5, where the concentration of TMPyP4 is 80.0 μM.

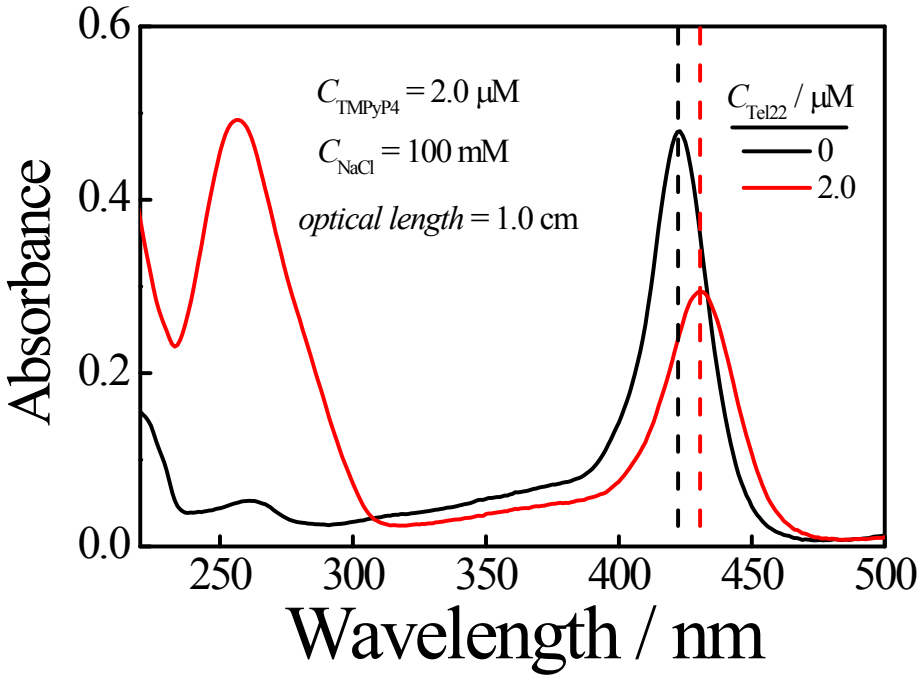

Figure S3. The UV-vis absorption spectra of 2.0 μM TMPyP4 solution with and without the addition of 2.0 μM Tel22, where the concentration of NaCl is 100 mM.

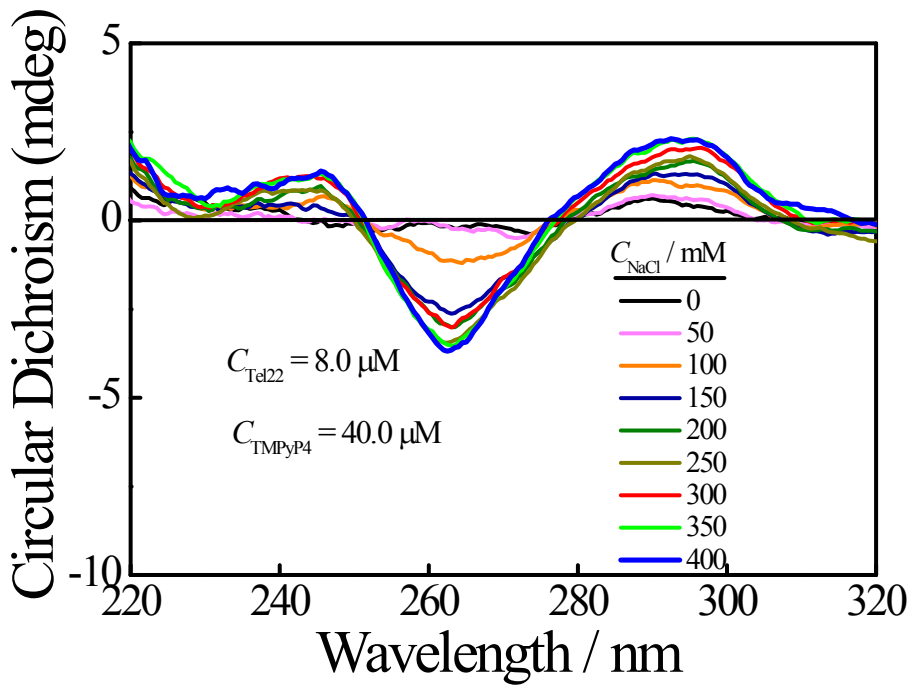

Figure S4. CD titration with NaCl on Tel22 (8.0 μM) solution containing 40.0 μM TMPyP4.

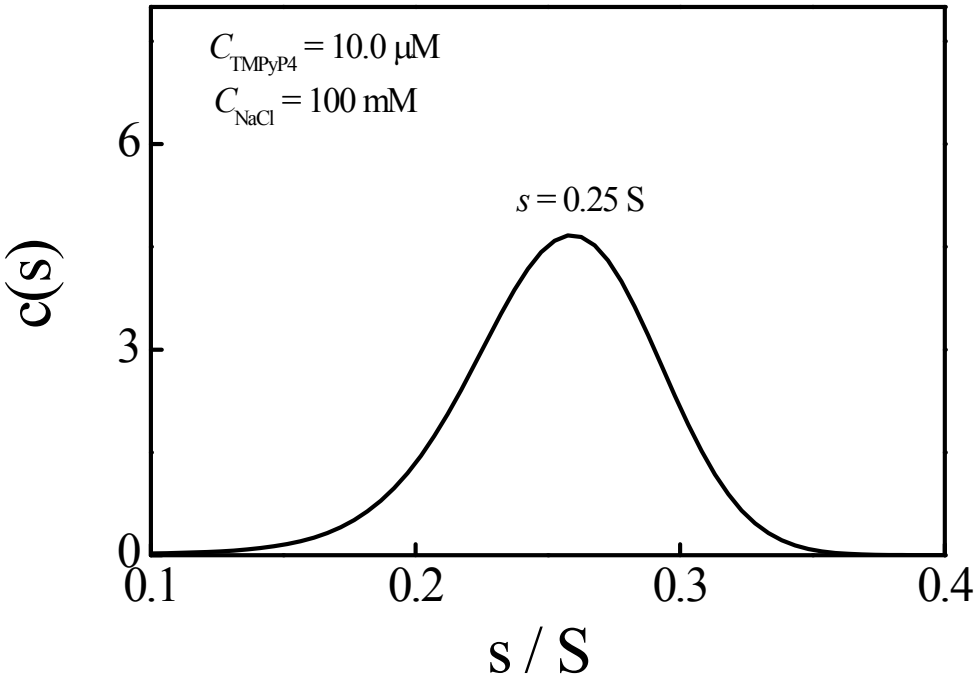

Figure S5. The sedimentation coefficient distribution of 10.0 μM TMPyP4 in an aqueous solution containing 100 mM NaCl and 10 mM Tris/HCl with a pH of 7.5.

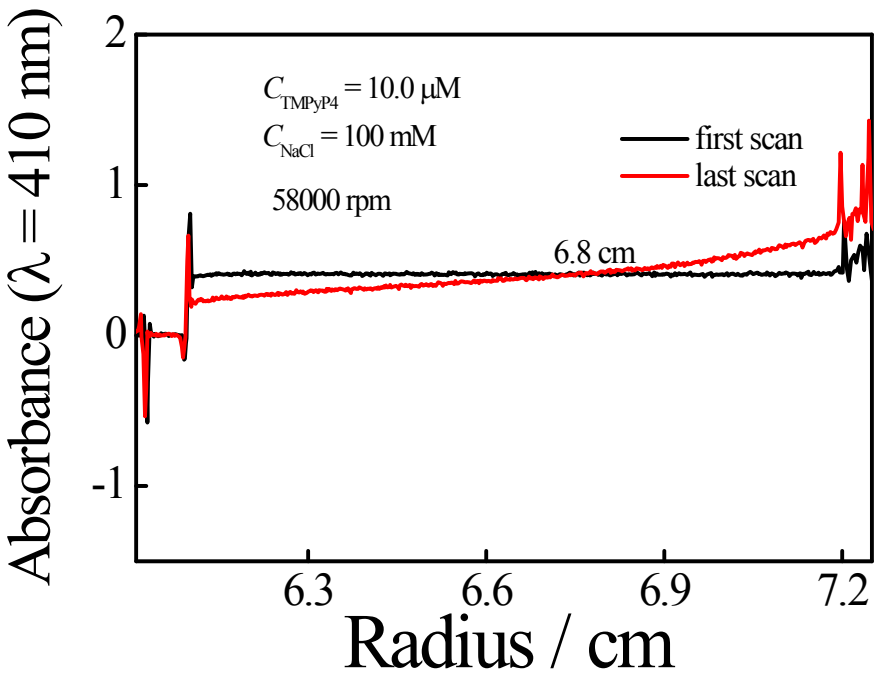

Figure S6. The radial velocity scans of TMPyP4 solution with 100 mM NaCl at the beginning and at the end of one SV experiment, where the concentrations of NaCl and TMPyP4 are 100 mM and 10.0 μM, respectively.

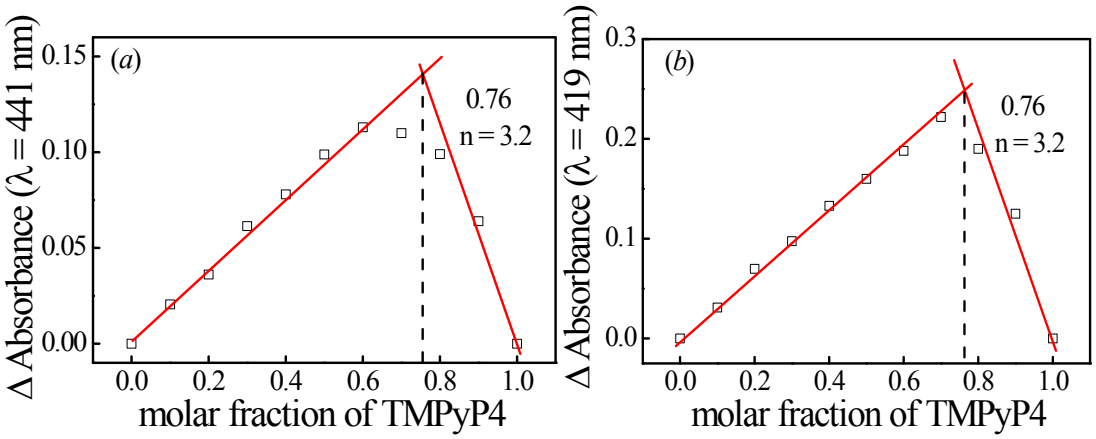

Figure S7. Job plots for the binding of TMPyP4 to Tel22 G-quadruplexes at two wavelengths of 441 nm (*a*) and 419 nm (*b*) in a solution containing 10 mM Tris-HCl, 100 mM NaCl with a pH of 7.5.

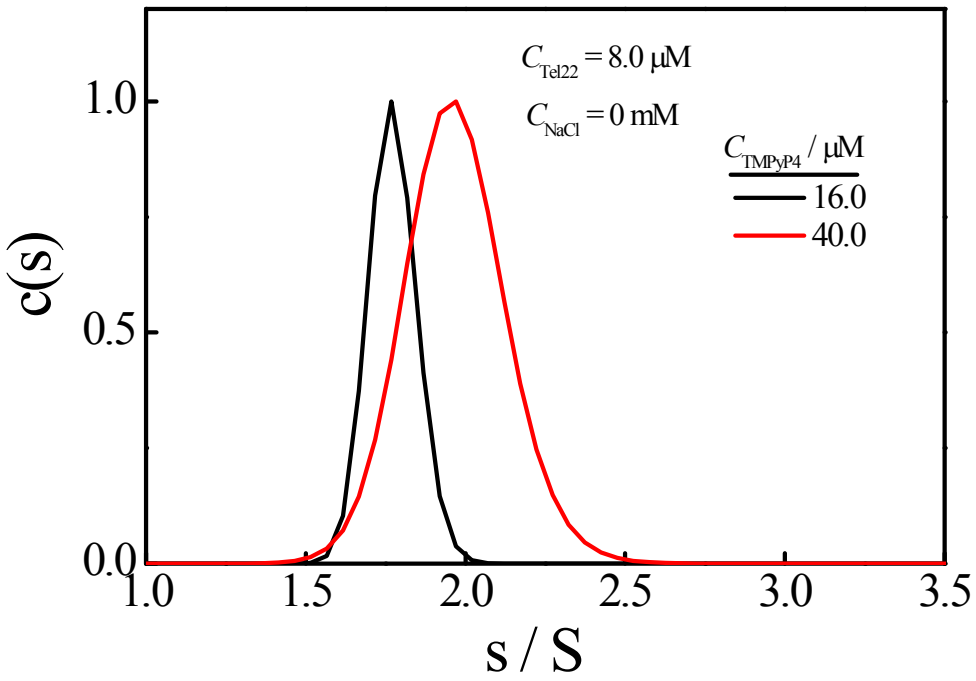

Figure S8. The normalized sedimentation coefficient distributions of Tel22 with the addition of TMPyP4 in the solution containing 10 mM Tris-HCl with a pH of 7.5 and without the addition of NaCl.

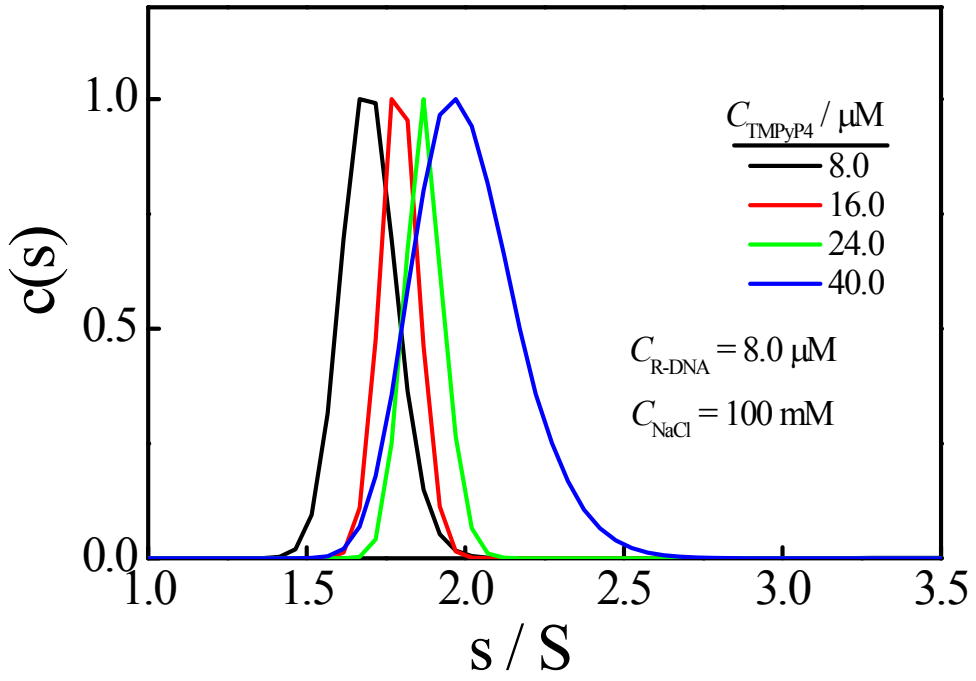

Figure S9. The normalized sedimentation coefficient distributions of control DNA with a sequence of 5'-TTATCTATGCTGTTACTCTGACTC-3' and with the addition of TMPyP4 in a solution containing 10 mM Tris-HCl and 100 mM NaCl with a pH of 7.5, where the concentration of the control DNA is 8.0 μM.

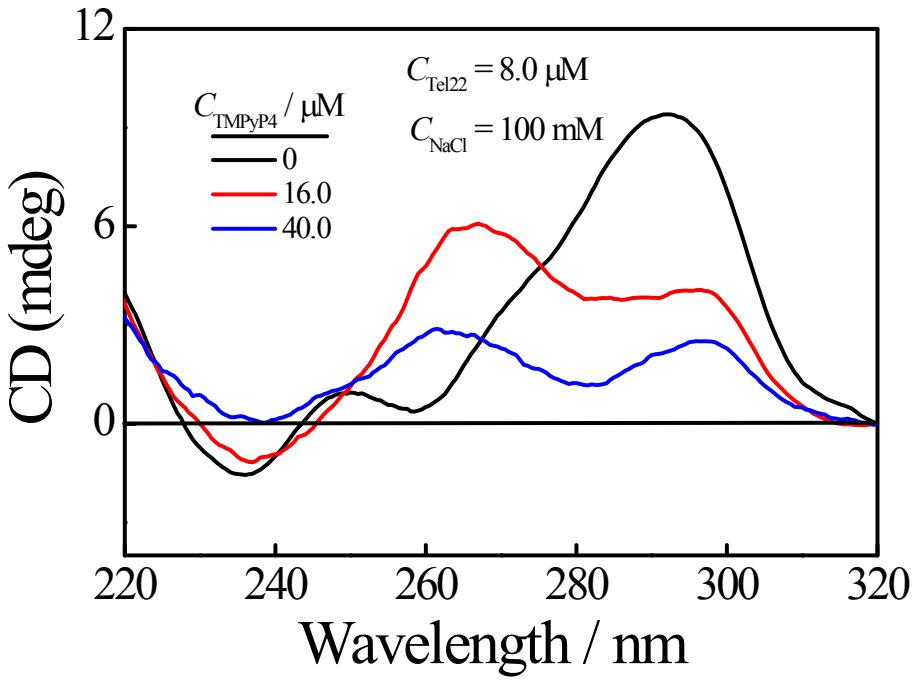

Figure S10. CD spectra of Tel22 (8.0 μM) solution containing 100 mM KCl with the addition of different concentrations of TMPyP4.

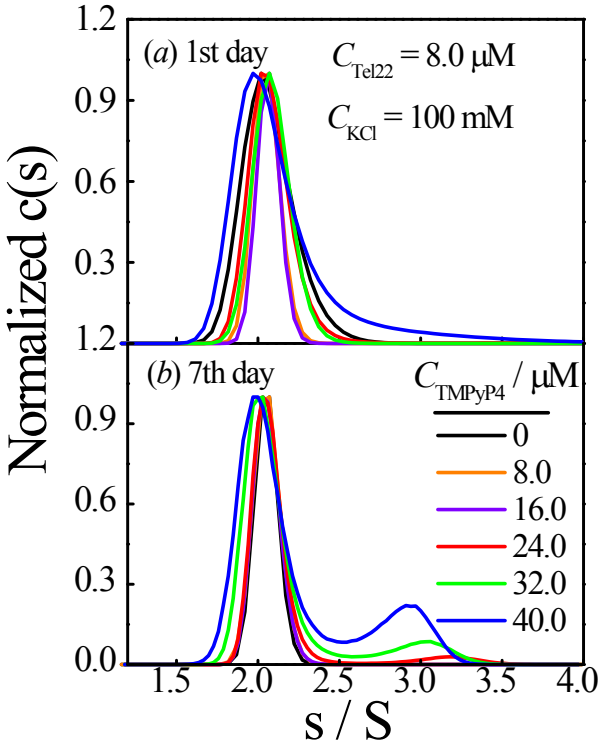

Figure S11. Sedimentation coefficient distributions of Tel22/TMPyP4 complexes in the presence of 100 mM KCl measured by SV experiments at the first day (*a*) and the 7th day (*b*) after the preparation, where the concentrations of TMPyP4 are 8.0, 16.0, 24.0, 32.0 and 40.0 μM, respectively.