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RESEARCH ARTICLE

G-quadruplex formation of oligonucleotides containing ALS and FTD related GGGGCC repeat

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Supporting Information

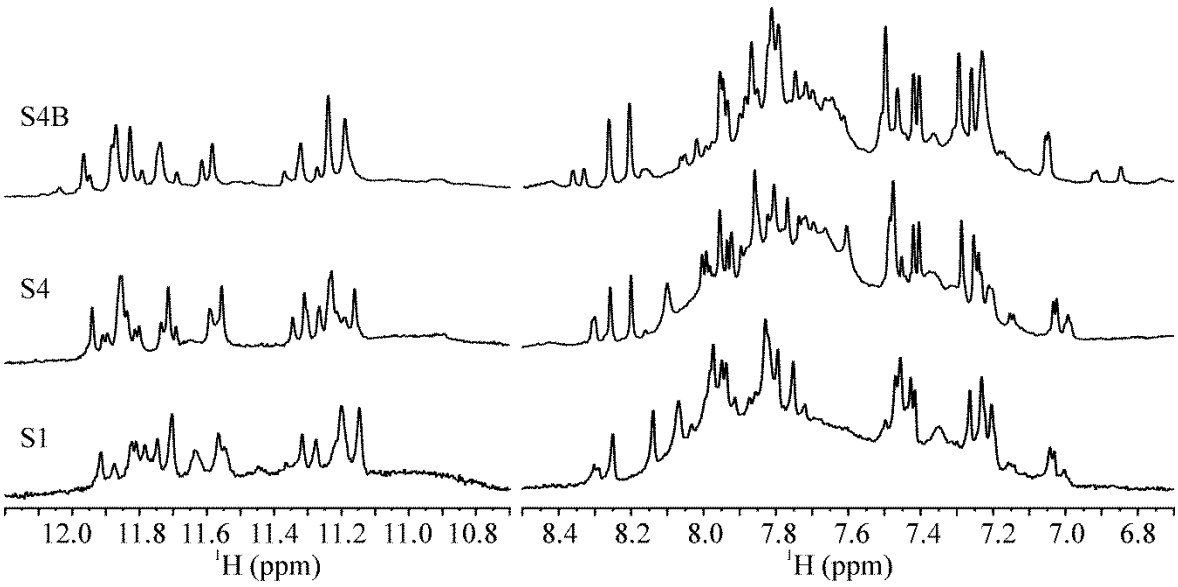

Fig. S1 Comparison of imino and aromatic regions of ^{1}H NMR spectra of S4B, S4 and S1. Spectra were recorded after two weeks (S4 and S4B) of folding or 1 day after annealing (S1) in the presence of 30 mmol/L KCl in 90% H_2O, 10% ^2H_2O at 25 °C and 0.9 mmol/L (S4B), 1.4 mmol/L (S4) or 0.6 mmol/L (S1) concentration of oligonucleotide per strand

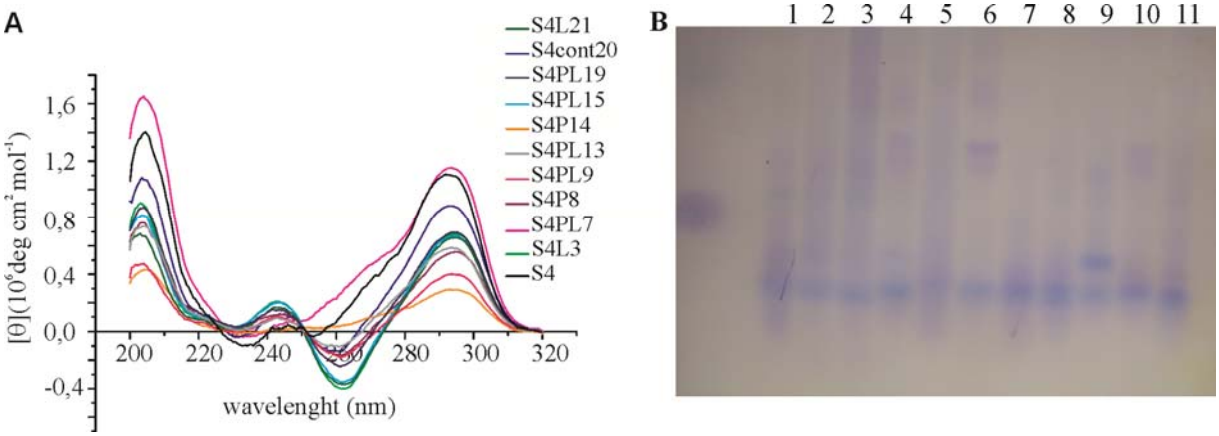

Fig. S2 Comparison of CD spectra of brominated oligonucleotides and gel mobility of selected oligonucleotides. (A) CD spectra of brominated oligonucleotides recorded at 25 °C, 30 mmol/L KCl and 30 µmol/L concentration of oligonucleotide per strand; (B) Non-denaturing 15% PAGE of oligonucleotides at 5 °C in 25 mmol/L TBA buffer (pH 8.1) and 30 mmol/L KCl. Approximately 5 µg of DNA in a solution containing 30 mmol/L KCl. Next to lane one is bromophenol blue and xylene cyanol dye. (1) S4B folded at 10 µmol/L DNA and then concentrated to 1.7 mmol/L DNA; (2) S4B folded at 0.9 mmol/L; (3) S4; (4) S4L3; (5) S4Tc; (6) S4PL9; (7) S4P8; (8) S4PL19; (9) S4Tf; (10) S4PL15; (11) S4PL13

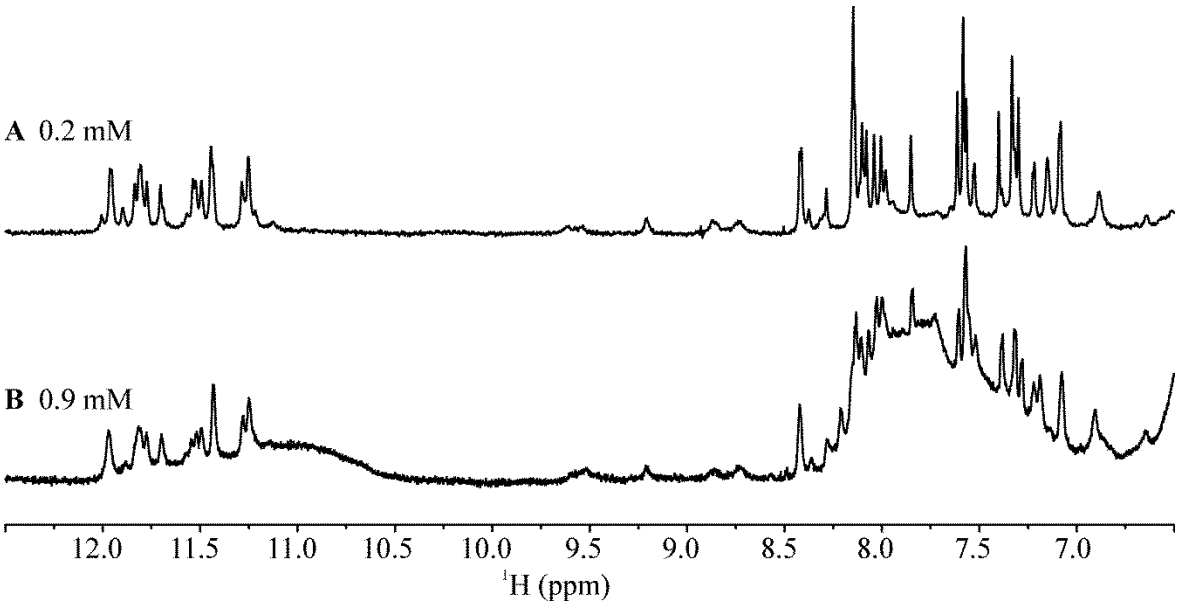

Fig. S3 Imino and aromatic region of ^{1}H NMR spectra of SL21 folded by annealing at 120 mmol/L and pH 7.2 highlighting the effect of DNA concentration during folding. Concentration of oligonucleotide per strand during the addition of KCl is shown on the left side of the spectra. Oligonucleotide folded at 0.2 mmol/L DNA was concentrated after folding and recorded at 0.5 mmol/L oligonucleotide concentration per strand. The spectra were recorded at 5 °C

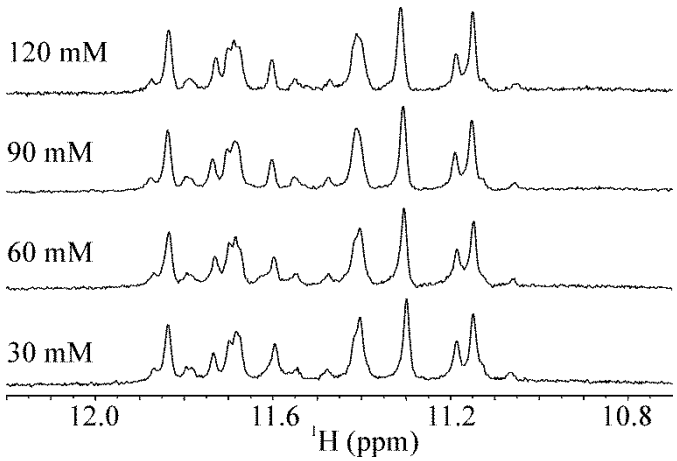

Fig. S4 Imino regions of ^{1}H NMR spectra of oligonucleotide S4L21 annealed in the presence of different concentrations of KCl. Spectra were recorded at 25 °C, 20 mmol/L phosphate buffer with pH 7.2 and 0.1 mmol/L oligonucleotide concentration per strand