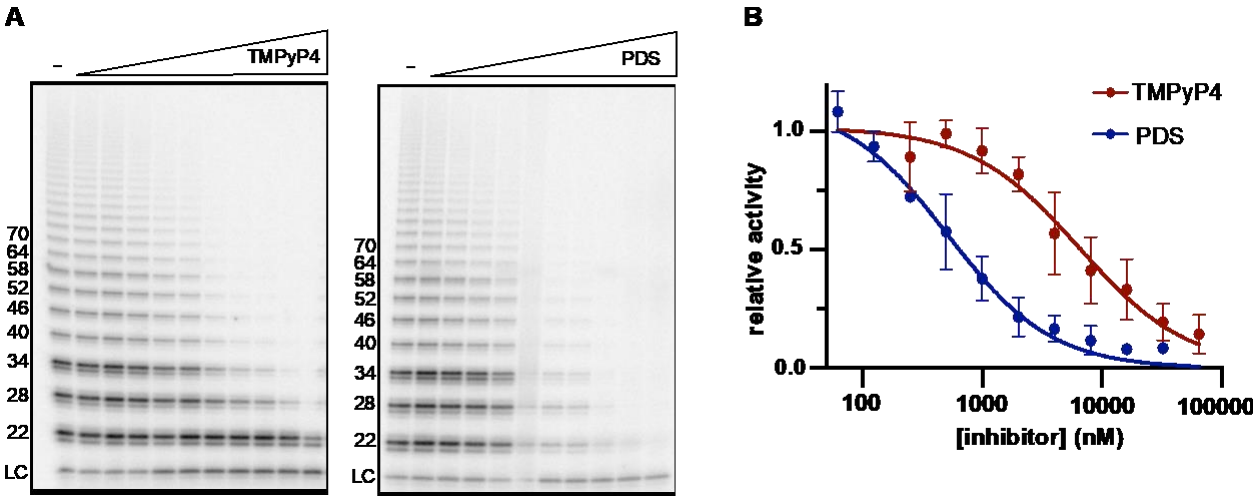
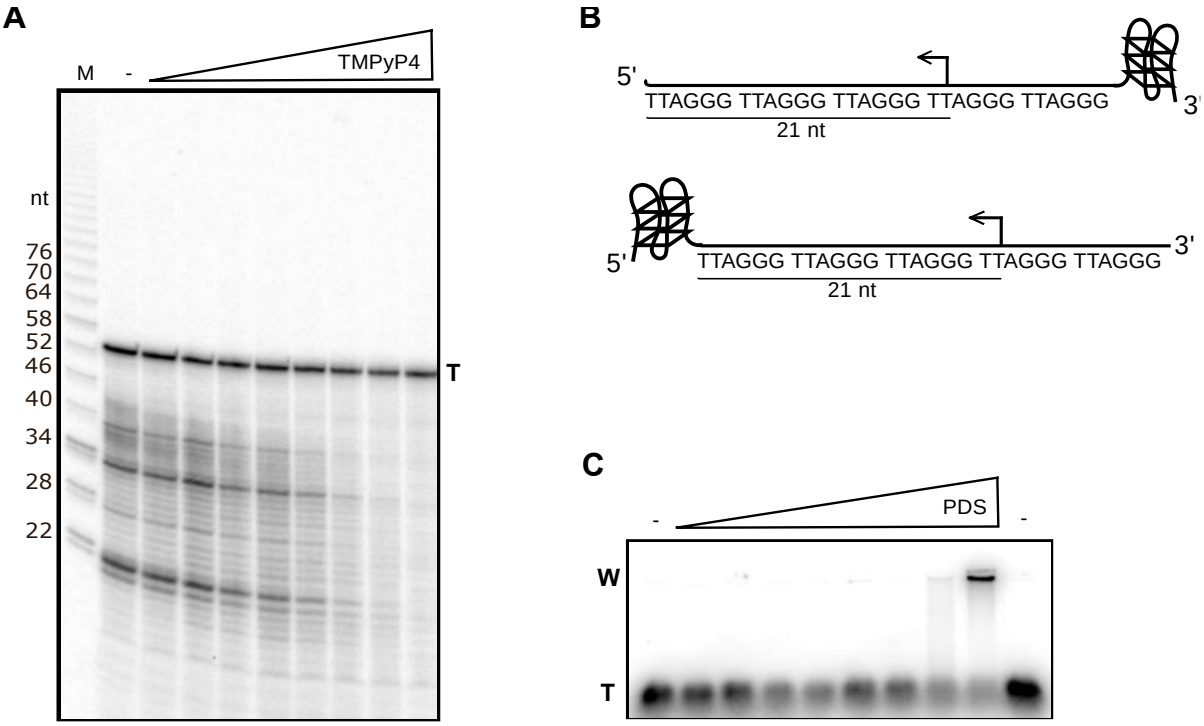
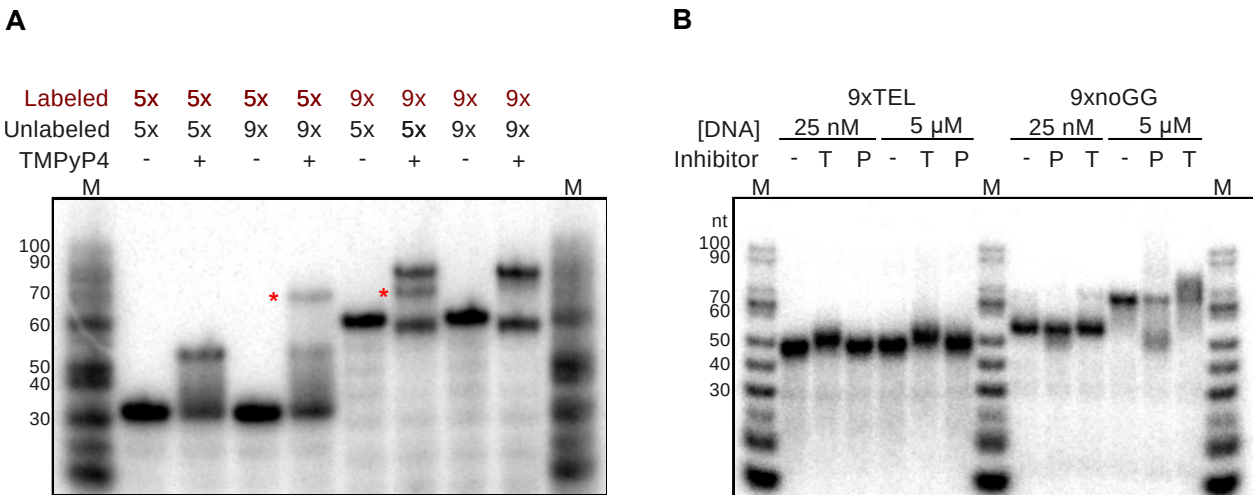


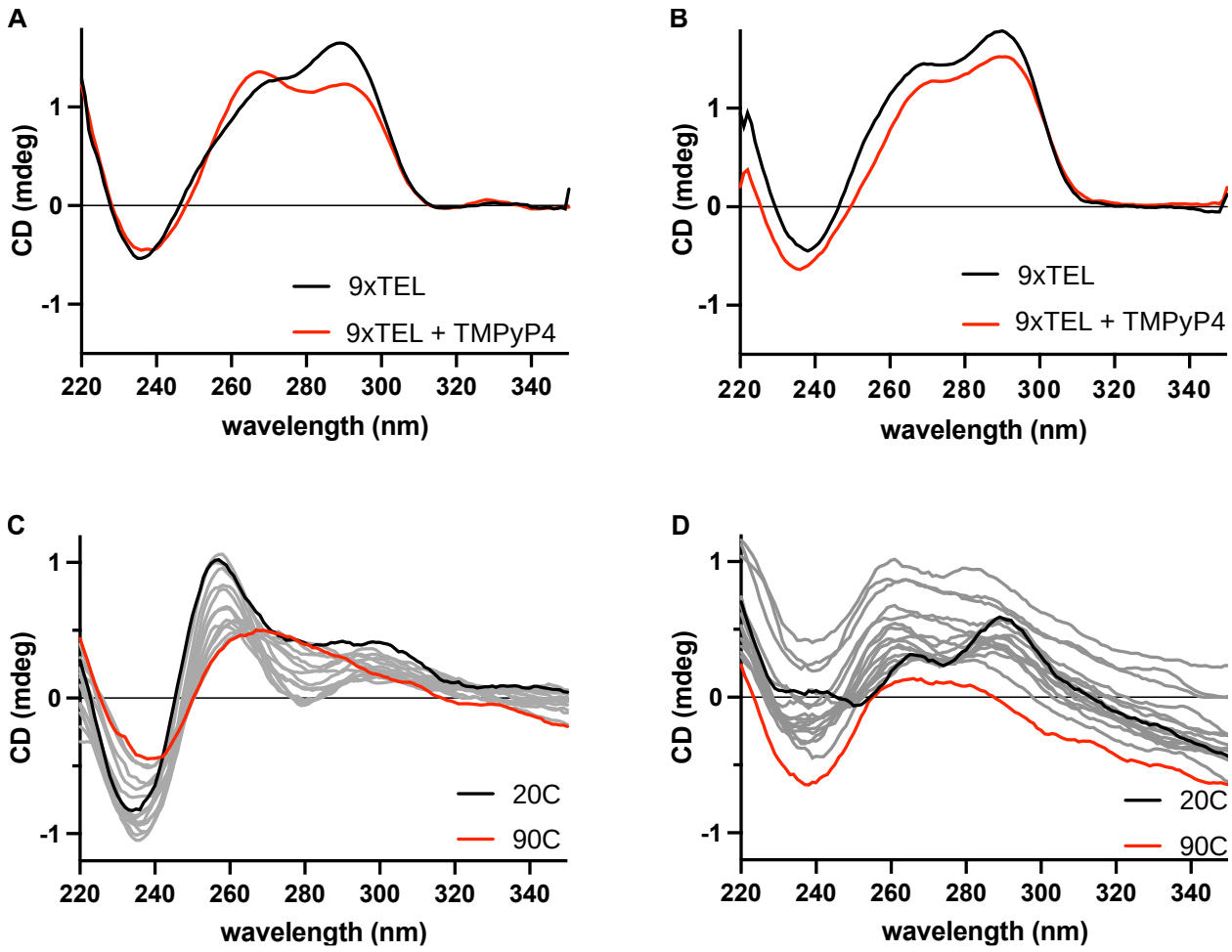
SUPPLEMENTAL FIGURE S1. TMPyP4 and PDS inhibit telomerase. (A) Representative gels showing inhibition of telomerase by TMPyP4 (left) and PDS (right). Two-fold dilutions of inhibitor (highest concentration TMPyP4: 64 µM, highest concentration PDS: 32 µM) were included in telomerase extension reaction. LC indicates a 16 nt ^{32}P-labeled loading control. (B) Plot of relative telomerase activity as a function of inhibitor concentration. The IC50 of TMPyP4 for telomerase inhibition was 6400 nM and that of PDS was 520 nM. Points represent mean values and error bars represent SD for n = 3 independent experiments.



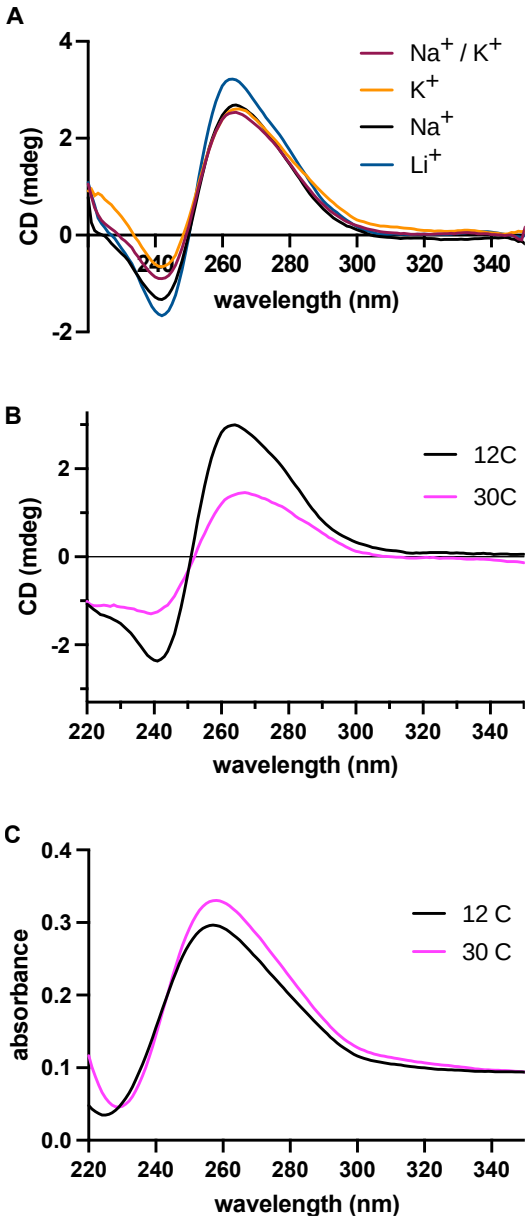
SUPPLEMENTAL FIGURE S2. Effect of small molecule inhibitors on C-strand synthesis and template DNA aggregation. (A) Uncropped gel from Figure 1A left, showing no products above the labeled template marker. (B) Model showing 9xTEL with a GQ on 3' or 5' end. The arrows indicate the predominant expected site of primase initiation. In both cases, the anticipated product would be about 21 nt. (C) Representative gel of 9xnoGG template (T) following incubation with increasing concentration of PDS in LiCl without CST-PP (compare to Fig3E, lower right gel). Accumulated signal in well (W) is due to aggregated PDS-DNA.



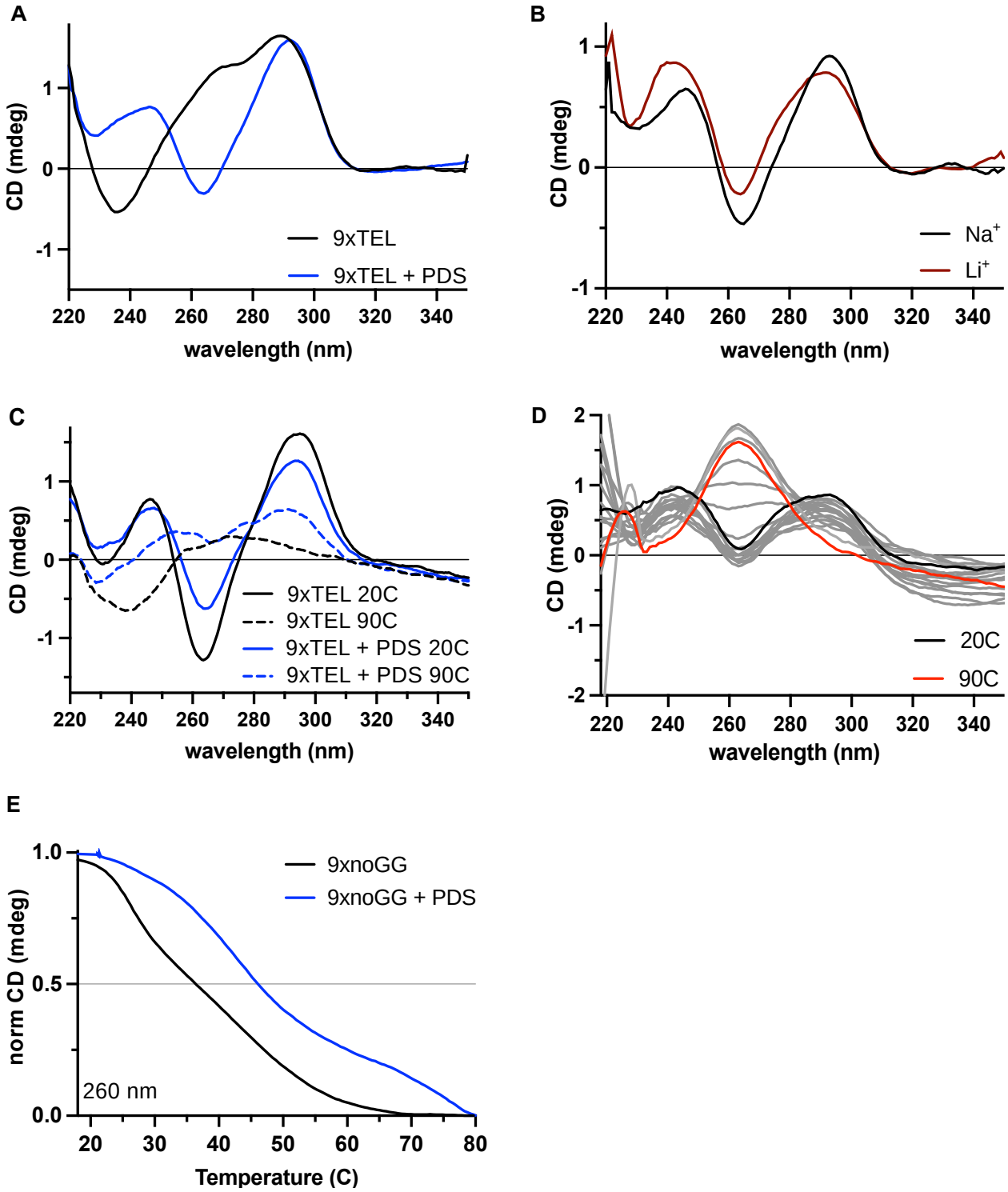
SUPPLEMENTAL FIGURE S3. Dimerization of noGG DNAs. (A) 10% polyacrylamide (1x TBE) native gel electrophoresis of mixtures of 5xnoGG and 9xnoGG with and without 250 nM TMPyP4. Each reaction contained 25 nM DNA (12.5 nM each template in mixtures). Heterodimeric species are indicated with red asterisks. (B) 10% polyacrylamide (0.5x Na^+/K^+, 0.5x TBE) native gel electrophoresis of DNA templates at standard concentration (25 nM) and high concentration (5 µM) with and without 5x TMPyP4 (T) or PDS (P).



SUPPLEMENTAL FIGURE S4. Additional CD spectra of 9xTEL with and without TMPyP4. (A) CD spectra of 9xTEL in NaCl/KCl with and without TMPyP4. (B) CD spectra of 9xTEL in KCl with and without TMPyP4. (C) CD spectra of 9xTEL in LiCl with increasing temperature from 20 °C to 90 °C. A spectrum is shown for every 4 °C increase in temperature. (D) Same as A with the addition of 10x TMPyP4.



SUPPLEMENTAL FIGURE S5. CD signature of 9xnoGG is nearly identical in all cations tested and is consistent with dimer formation. (A) CD spectra of 9xnoGG in NaCl/KCl, KCl, NaCl, or LiCl. (B) CD spectra of 9xnoGG at 12 °C and 30 °C. (C) Absorbance spectra of 9xnoGG at 12 °C and 30 °C.



SUPPLEMENTAL FIGURE S6. PDS stabilizes DNA secondary structure. (A) CD spectra of 9xTEL in NaCl/KCl with or without PDS. (B) CD spectra of 9xTEL with PDS in NaCl or LiCl. (C) CD spectra of 9xTEL with and without PDS at 20C or 90C. (D) CD spectra of 9xTEL with PDS in LiCl with increasing temperature from 20 °C to 90 °C. A spectrum is shown at every 4 °C. (E) Thermal melting of 9xnoGG in LiCl with and without PDS. CD was monitored at 260 nm and normalized between 1 and 0.