Supporting Information

The *RAD17* promoter sequence contains a potential tail-dependent G-quadruplex that downregulates gene expression with oxidative modification

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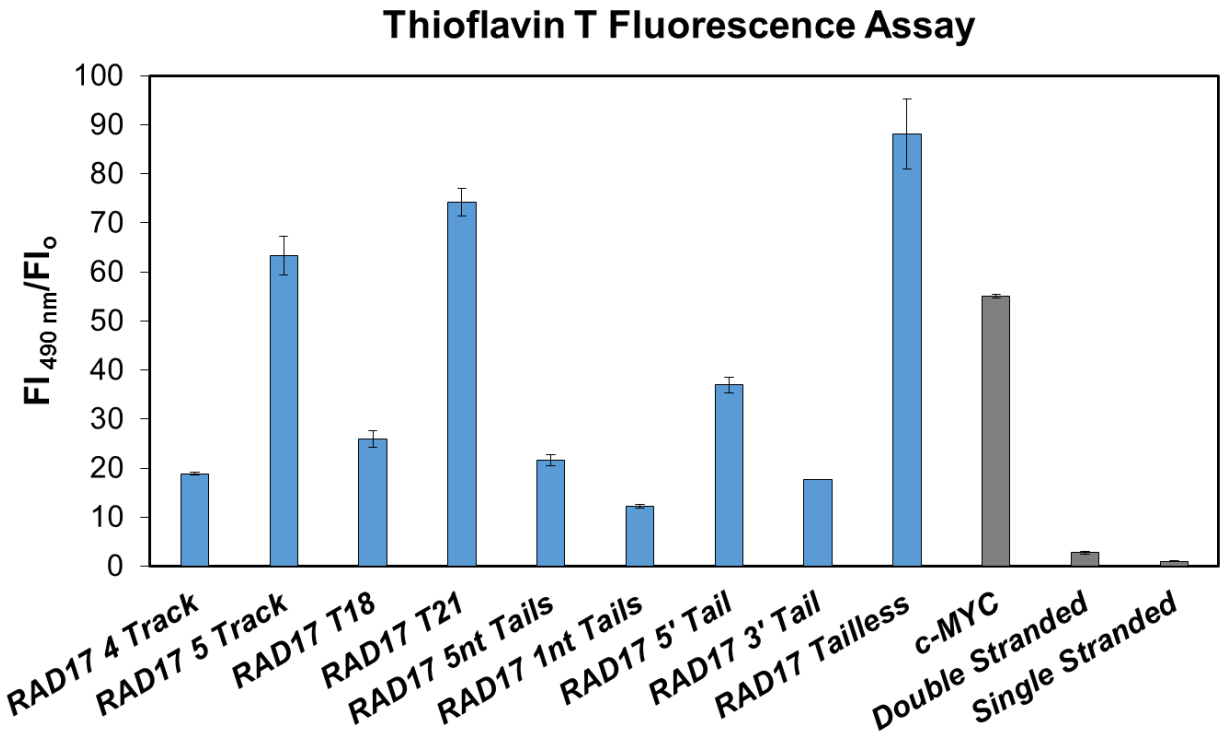


Figure S1. Fluorescence emission enhancement data obtained for *RAD17* sequences. Positive (*c-MYC*) and negative controls are shown in gray.

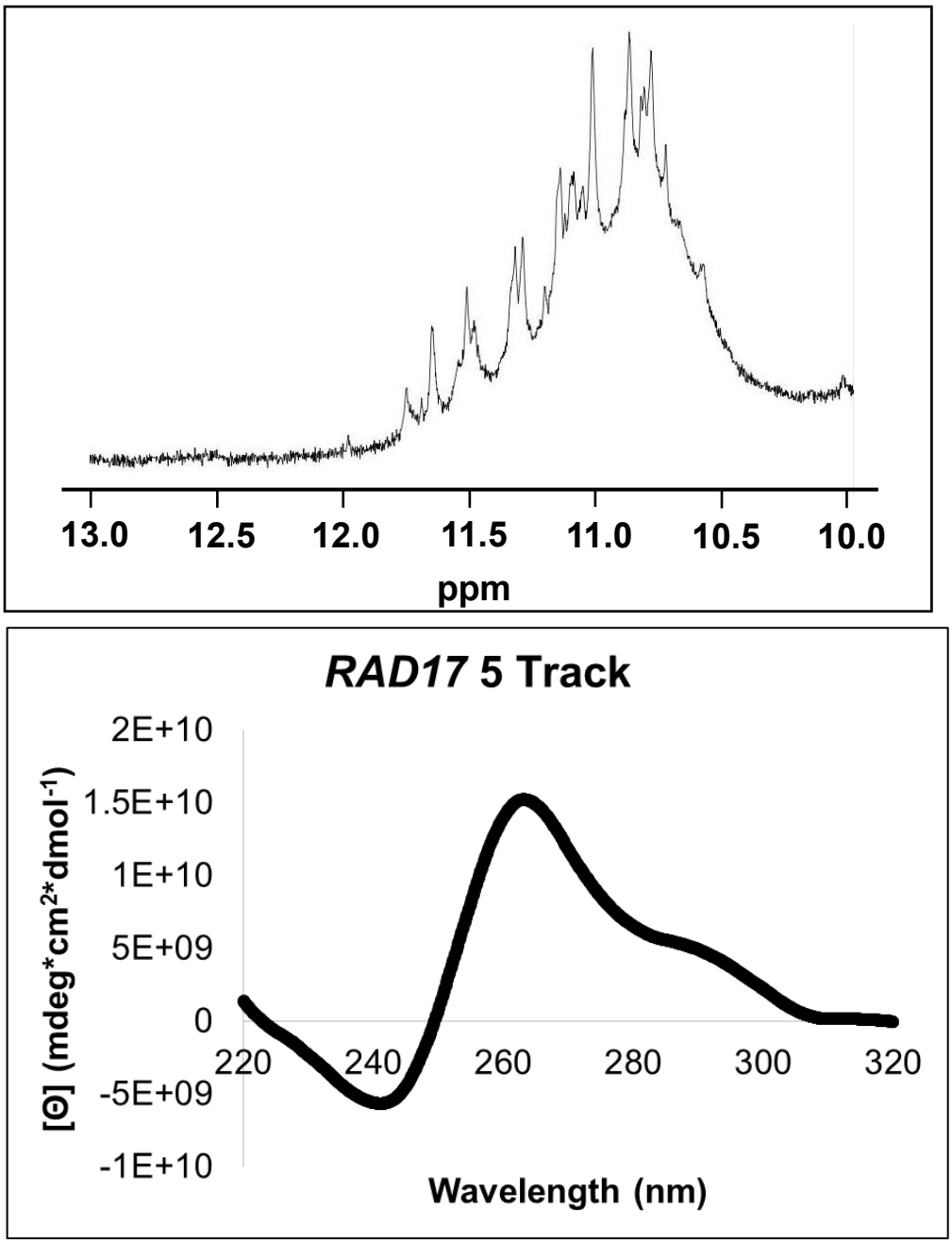


Figure S2. ^{1}H-NMR and CD spectra obtained for the *RAD17* 5 Track sequence.

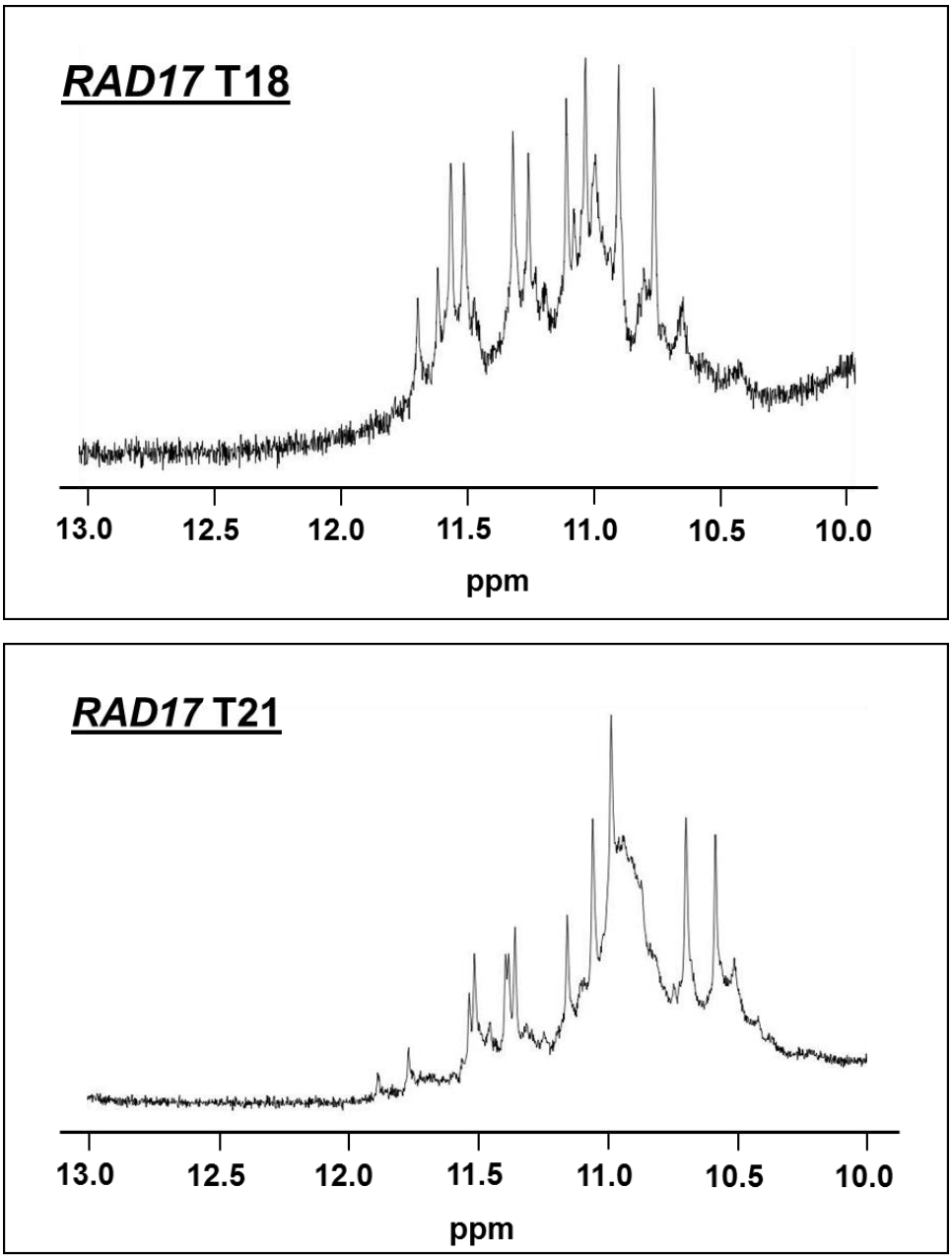
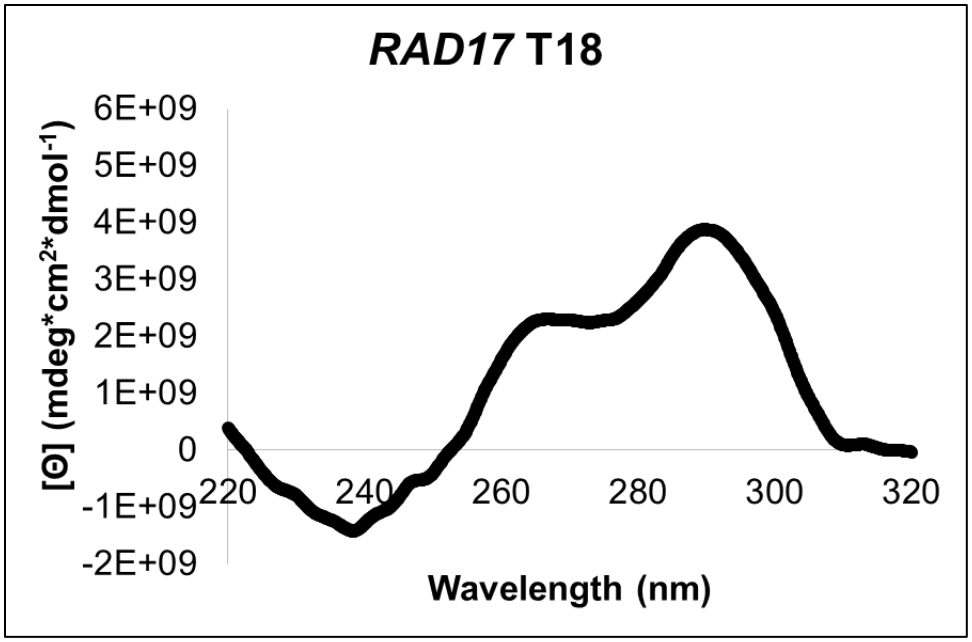


Figure S3. ^{1}H-NMR spectra obtained for *RAD17* T18 and T21.



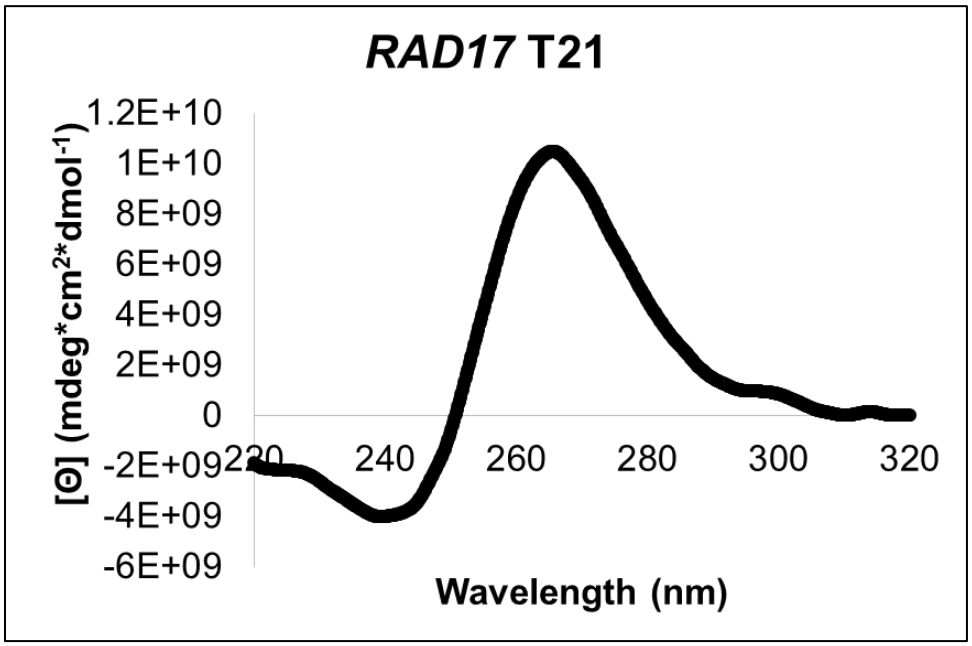


Figure S4. CD spectra obtained for *RAD17* T18 and T21.

Position of G	Sequence
3	5’ – CC**8** GGA GGG ACT GGG CTT GGG CA – 3’
4	5’ – CCG **8**GA GGG ACT GGG CTT GGG CA – 3’
5	5’ – CCG G**8**A GGG ACT GGG CTT GGG CA – 3’
7	5’ – CCG GGA **8**GG ACT GGG CTT GGG CA – 3’
8	5’ – CCG GGA G**8**G ACT GGG CTT GGG CA – 3’
9	5’ – CCG GGA GG**8** ACT GGG CTT GGG CA – 3’
13	5’ – CCG GGA GGG ACT **8**GG CTT GGG CA – 3’
14	5’ – CCG GGA GGG ACT G**8**G CTT GGG CA – 3’
15	5’ – CCG GGA GGG ACT GG**8** CTT GGG CA – 3’
19	5’ – CCG GGA GGG ACT GGG CTT **8**GG CA – 3’
20	5’ – CCG GGA GGG ACT GGG CTT G**8**G CA – 3’
21	5’ – CCG GGA GGG ACT GGG CTT GG**8** CA – 3’

8 = 8-BrG

Table S1. Sequences modified from *RAD17* T18 sequence. An 8 denotes the position in which an 8-BrG is substituted in for a G.

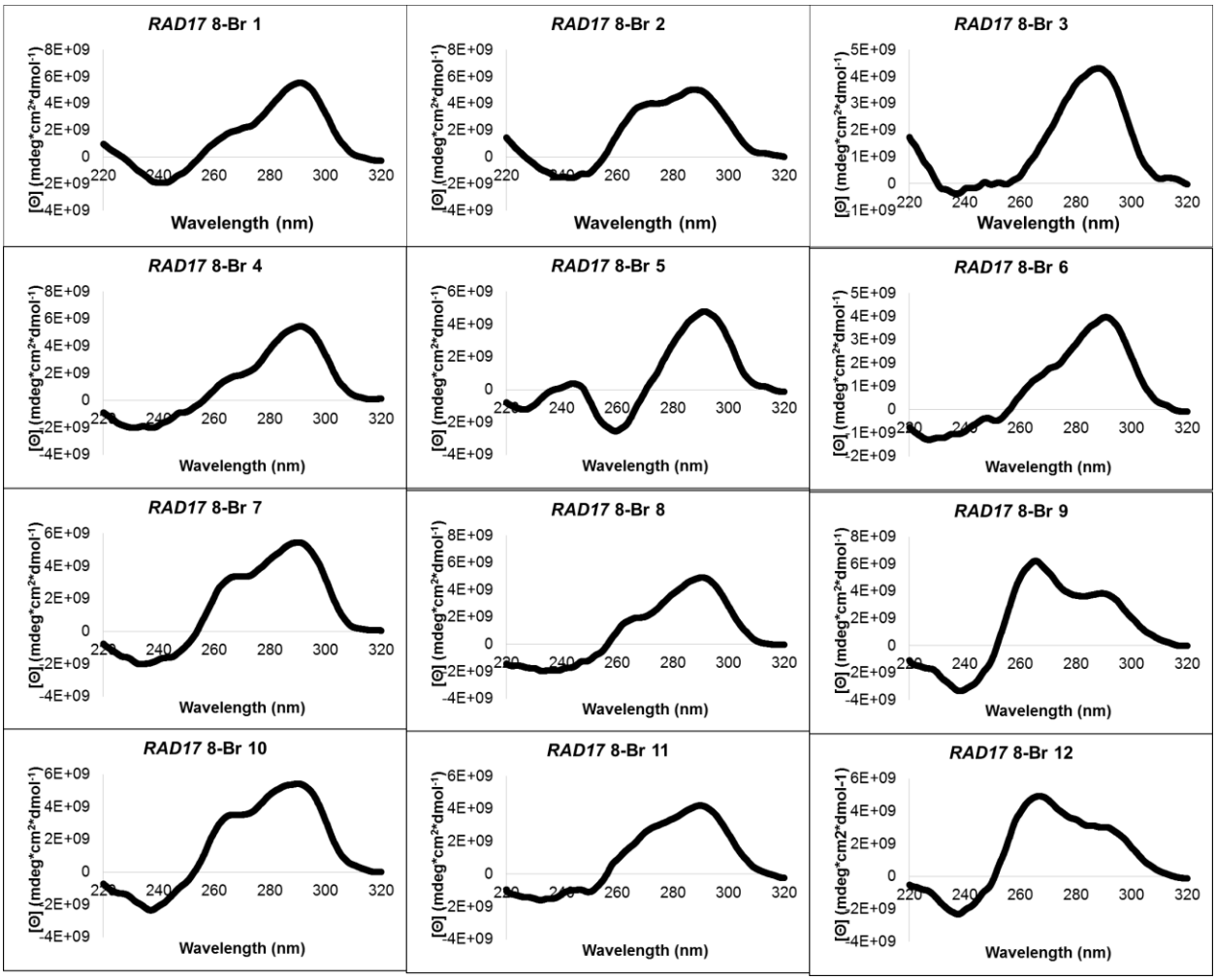


Figure S5. CD spectra obtained for the sequences with 8-BrG.

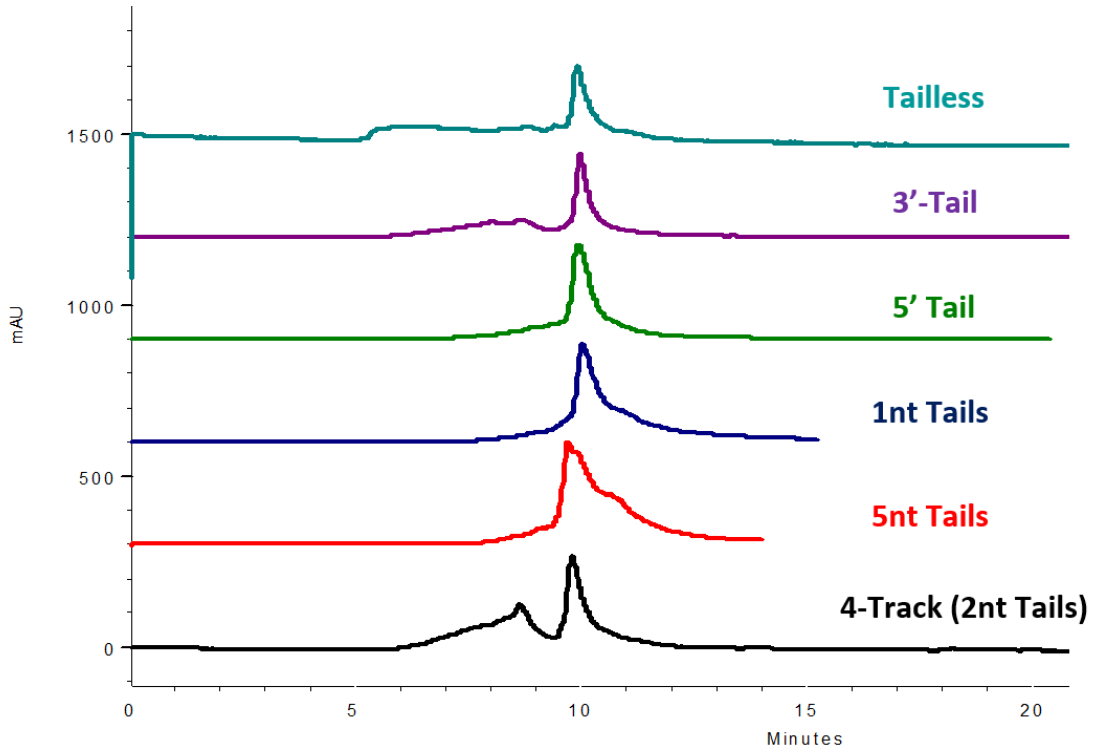
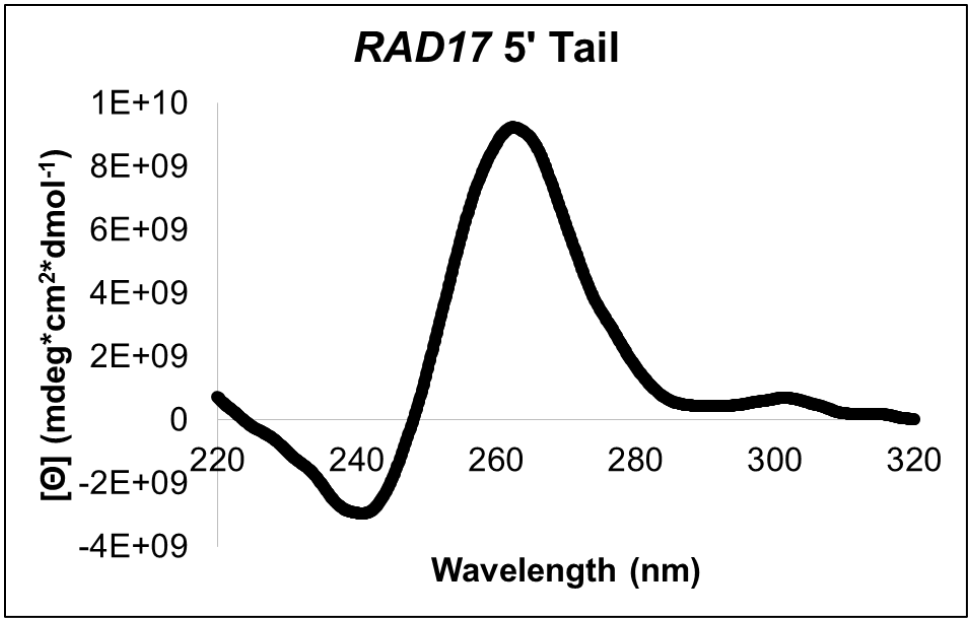


Figure S6. Size-exclusion chromatography to determine G4 molecularity. The traces were obtained via literature methods (Largy, E., Mergny, J. L., (2014), *Nucleic Acids Res. 42(19),* e149).



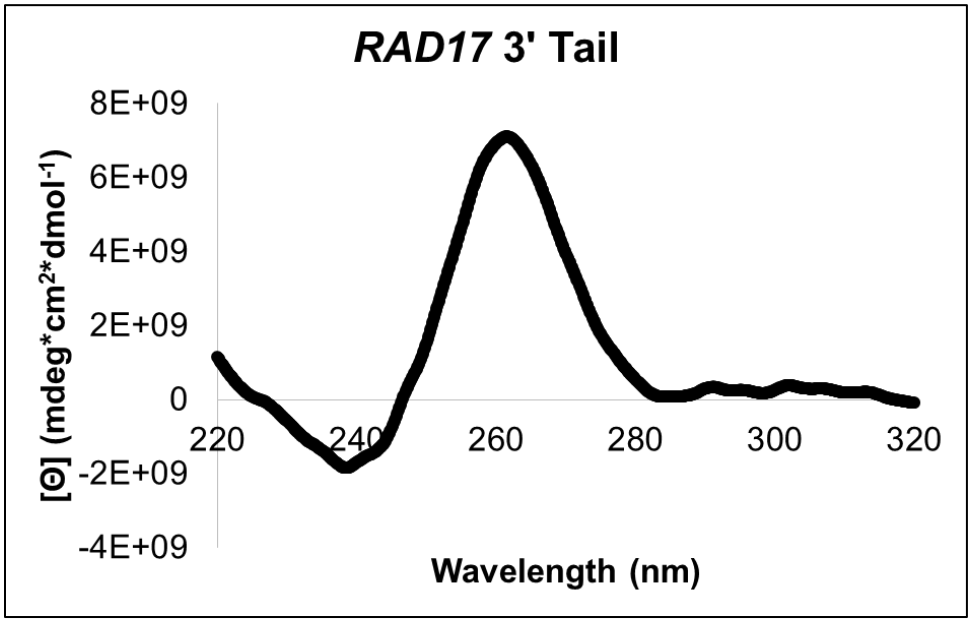
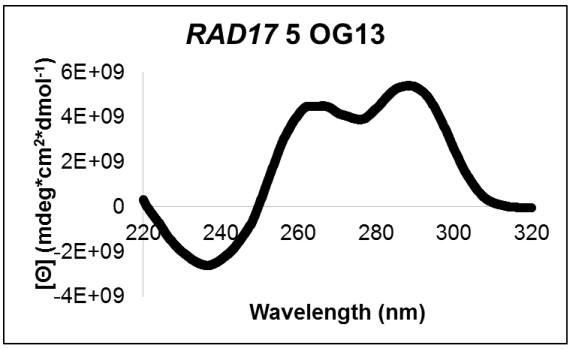
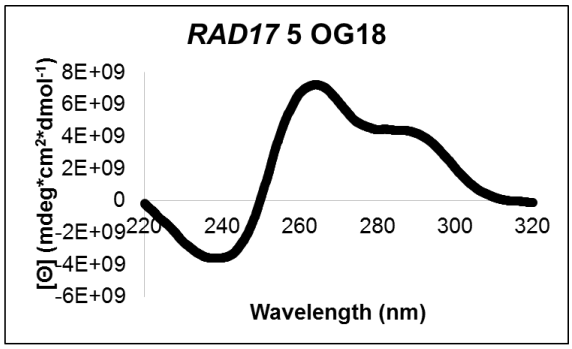


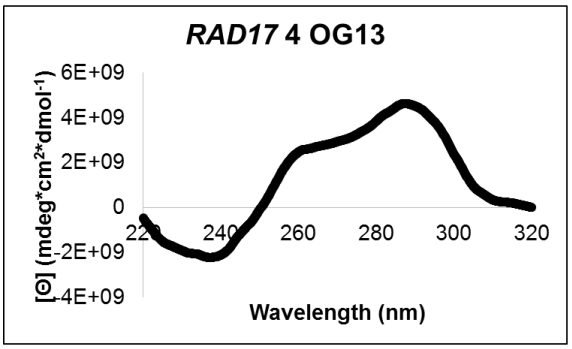
Figure S7. CD spectra obtained for the *RAD17* 5' Tail and 3'Tail sequences.



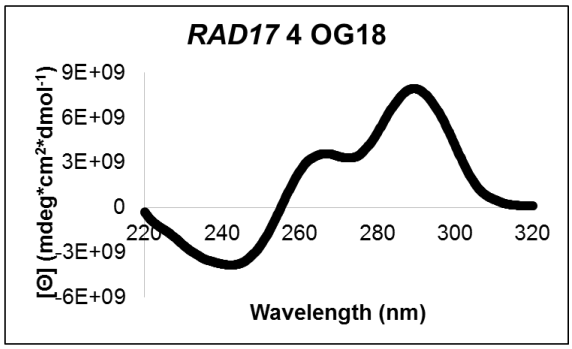
5 Track OG13 T_m: 63.9 ± 0.4 °C



5 Track OG18 T_m: 65.4 ± 1 °C



4 Track OG13 T_m: 40.9 ± 0.7 °C



4 Track OG18 T_m: 63.8 ± 0.2 °C

Figure S8. CD spectra and T_m values obtained for *RAD17* PQSs with OG in site-specific positions.