Supporting Information

Human telomere G-quadruplexes with five repeats accommodate

8-oxo-7,8-dihydroguanine by looping out the DNA damage

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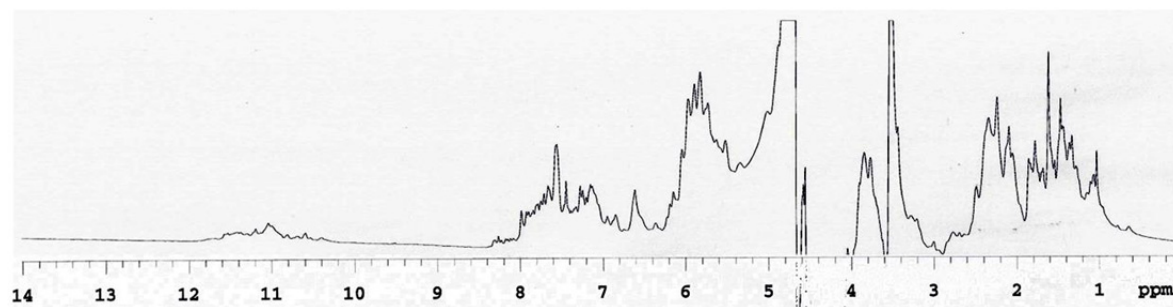Department of Chemistry, University of Utah, 315 S 1400 East, Salt Lake City, UT 84112-0850

*To whom correspondence should be addressed: (801) 585-7290
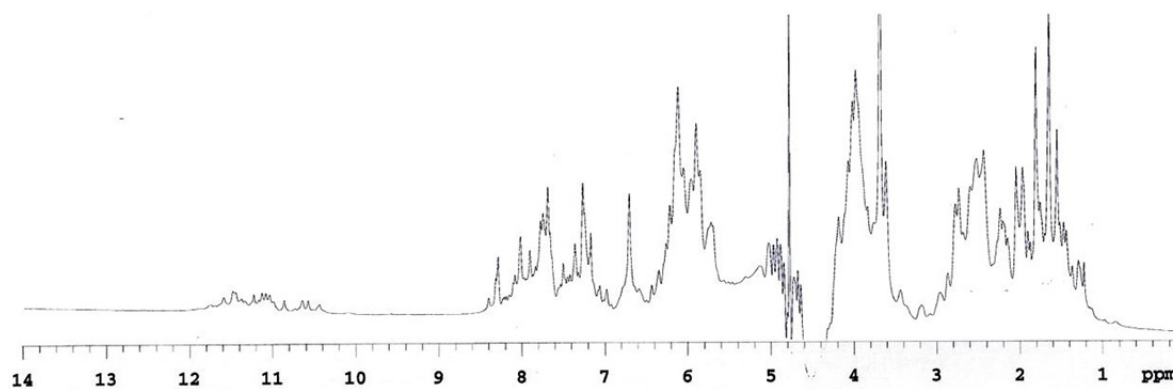
E-mail: burrows@chem.utah.edu

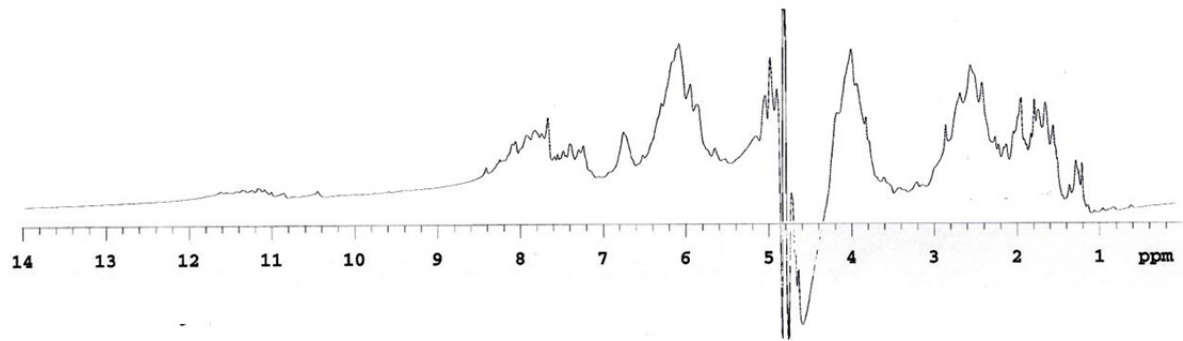**Figure S1**. ^{1}H-NMR for the five-repeat hTelo sequences.

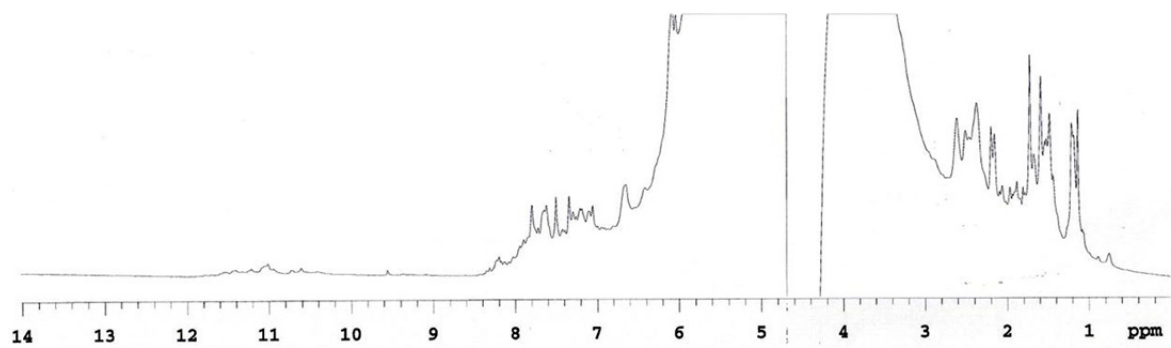hTelo5

hTelo 5`-OG

hTelo mid-OG

hTelo 3`-OG

Figure S2. CD and T_m results for the five-repeat hTelo sequences in 1 M salt.
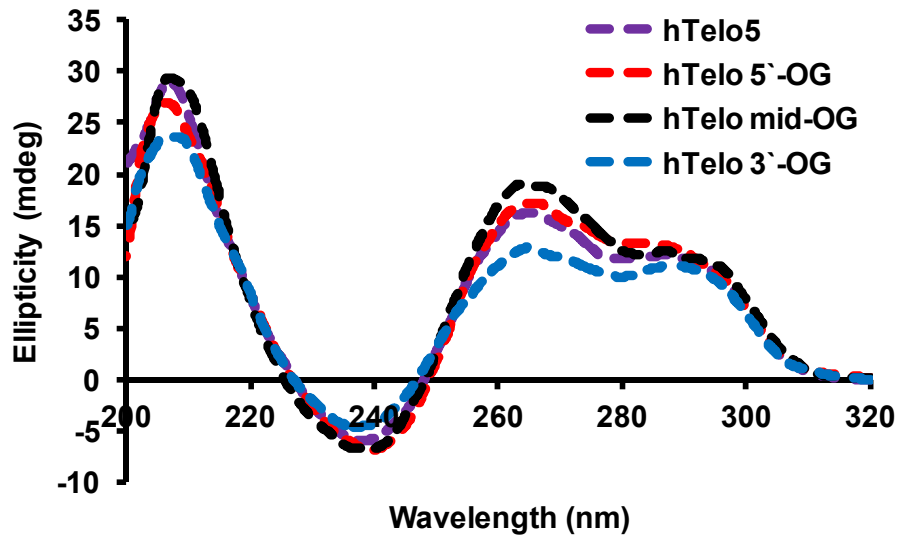
The CD studies were conducted with 3 μM DNA in 50 mM KCl, 950 mM LiCl, in 25 mM Tris (pH 7.9).
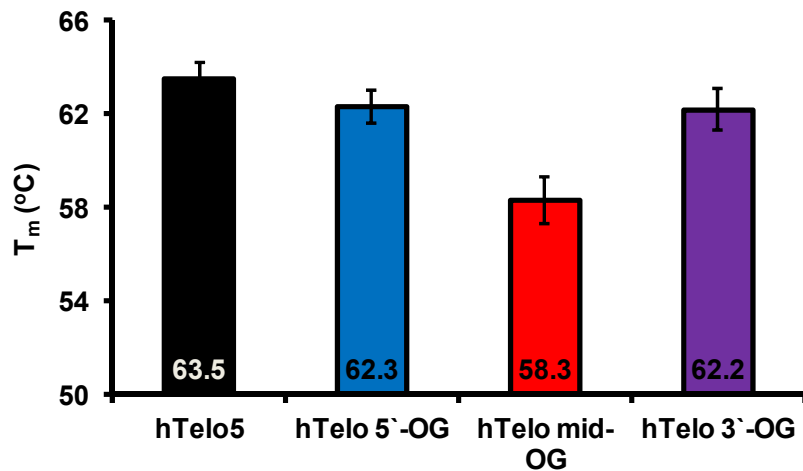
The T_m studies were conducted with 3 μM DNA in 50 mM KCl and 950 mM LiCl in 25 mM Tris (pH 7.9).

Figure S3. Example *i-t* traces for the five-repeat hTelo sequences.

Traces for hTelo5 (wild-type sequence)

Type 1 Events (triplex)

Type 2 Events (Hybrid G4s)

Long Type 2 Event (Hybrid G4)

Unidentifiable events that represent ~7% of the total events

Traces for hTelo 5`-OG

Type 1 Events (triplex)

40 pA

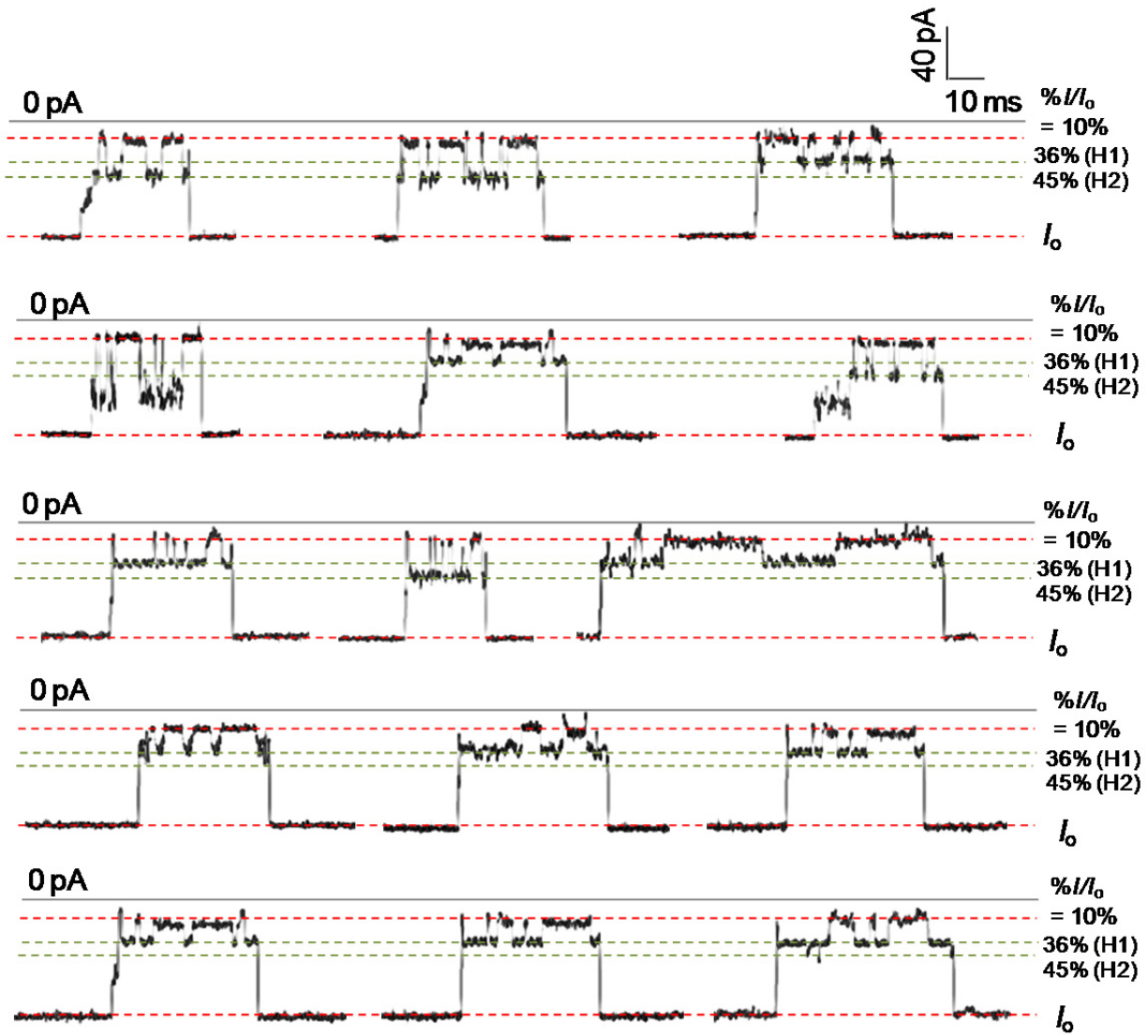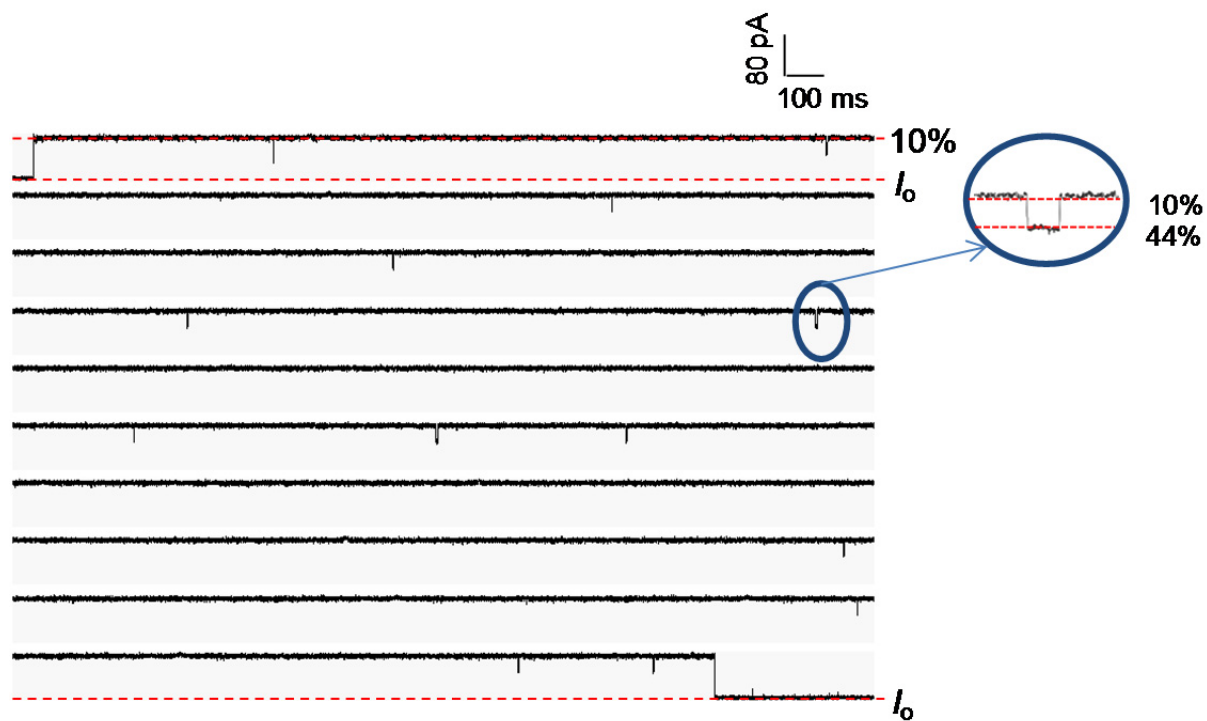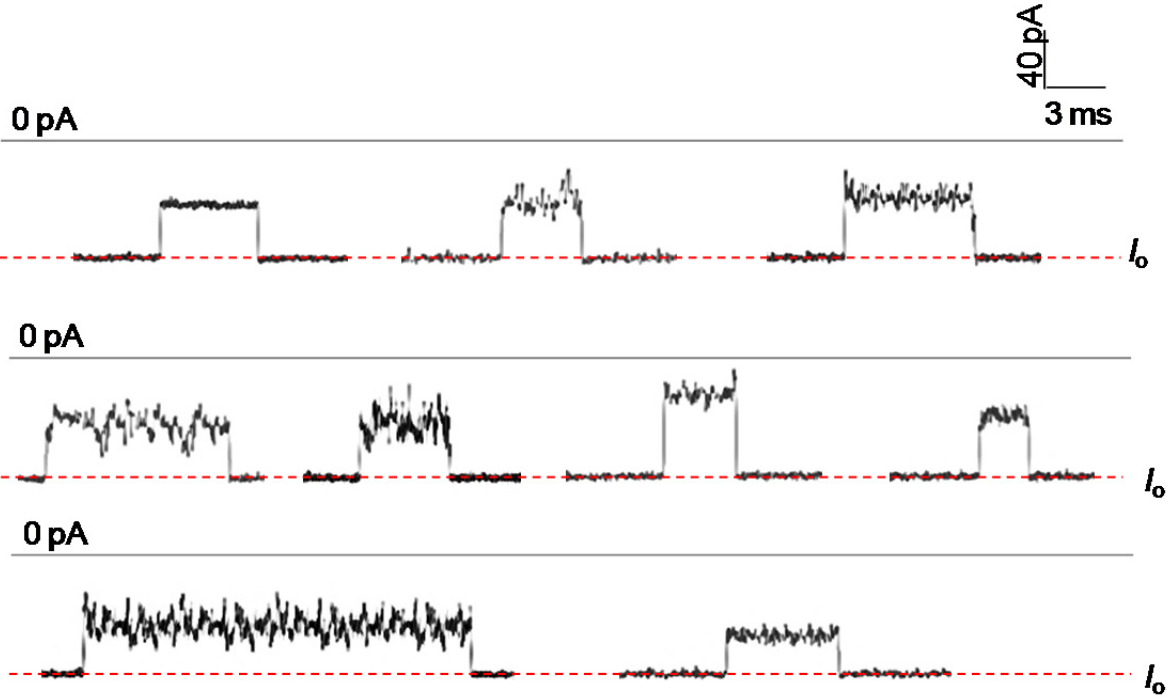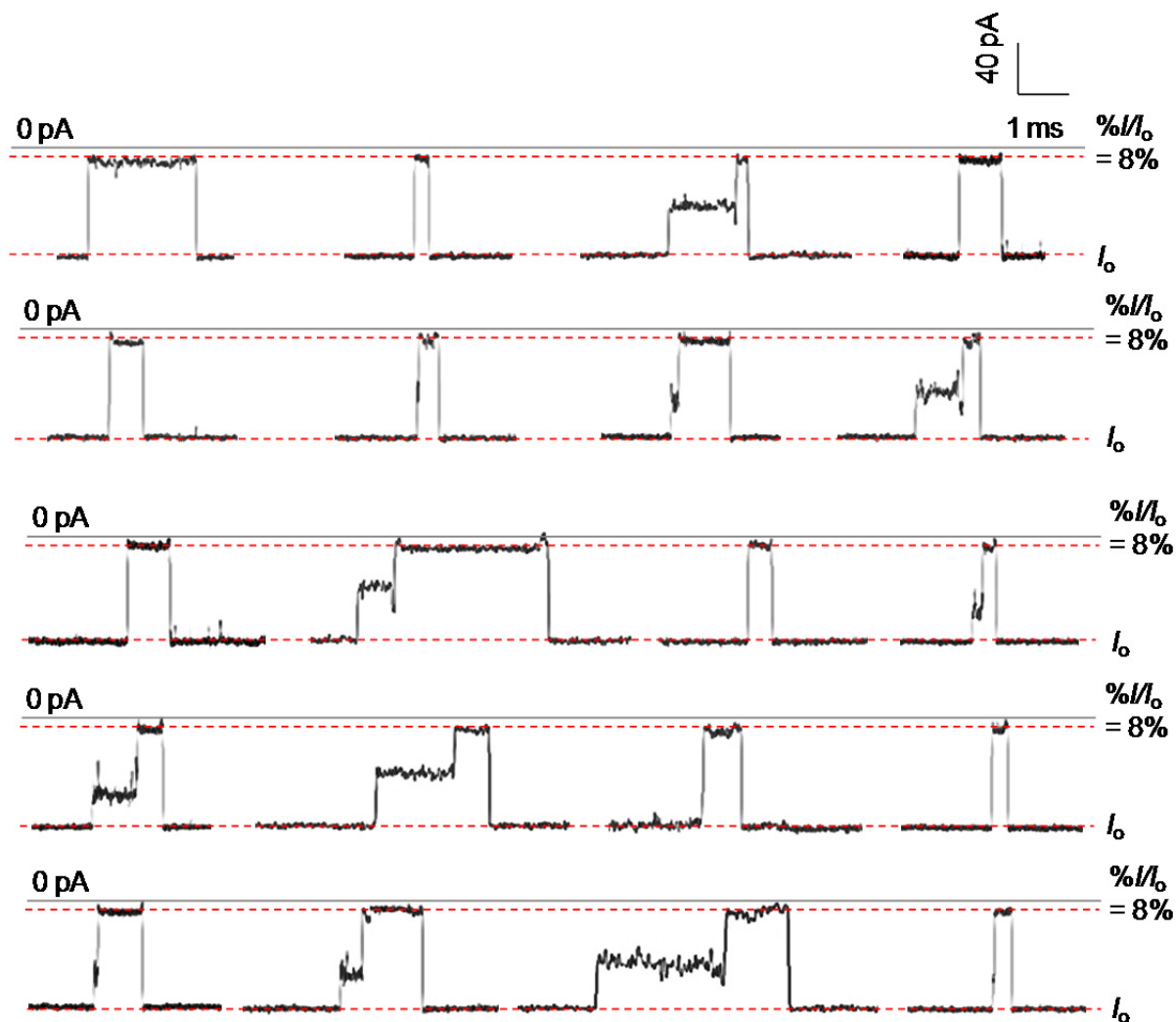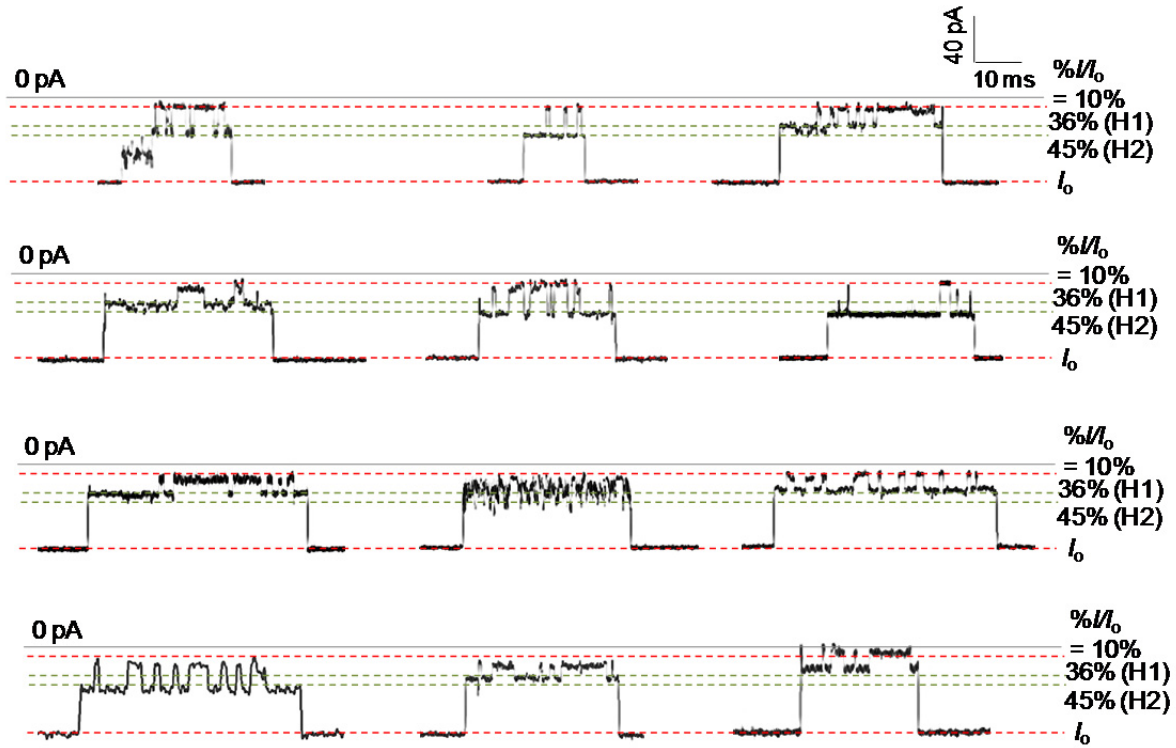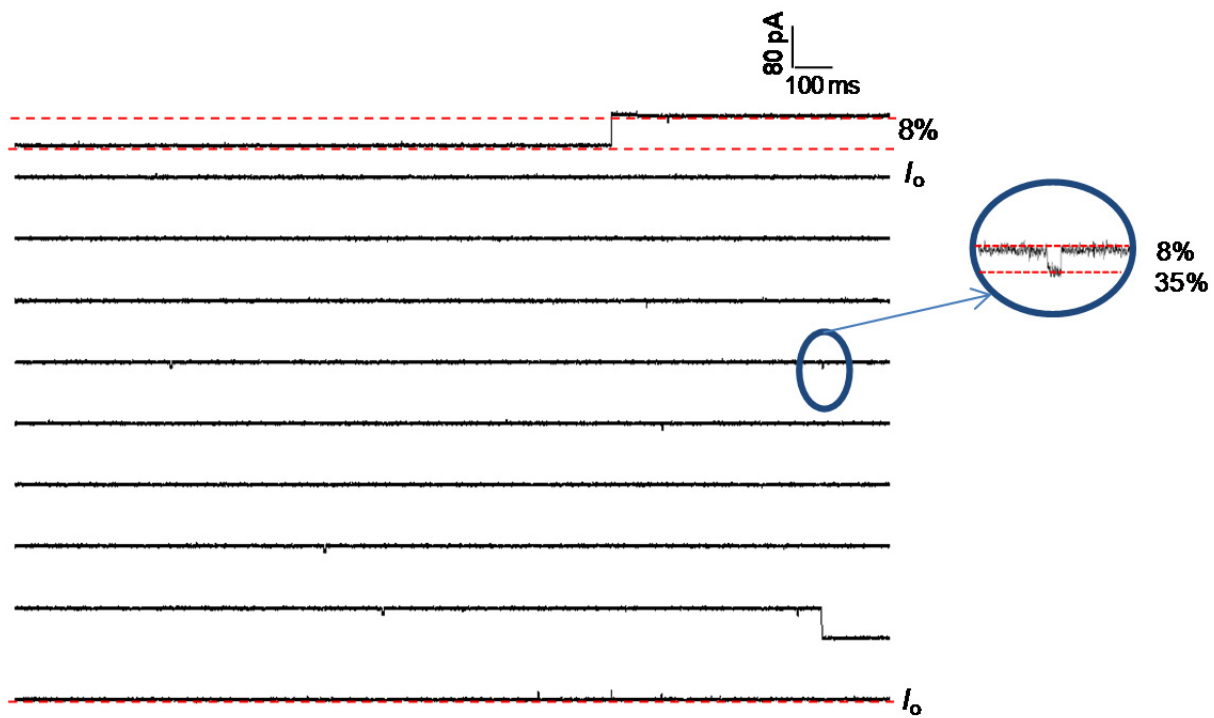0 pA   1 ms   %I/I$_o$
                                                                           = 8%

                                                                           I$_o$

0 pA   %I/I$_o$
                                                                           = 8%

                                                                           I$_o$

0 pA   %I/I$_o$
                                                                           = 8%

                                                                           I$_o$

0 pA   %I/I$_o$
                                                                           = 8%

                                                                           I$_o$

0 pA   %I/I$_o$
                                                                           = 8%

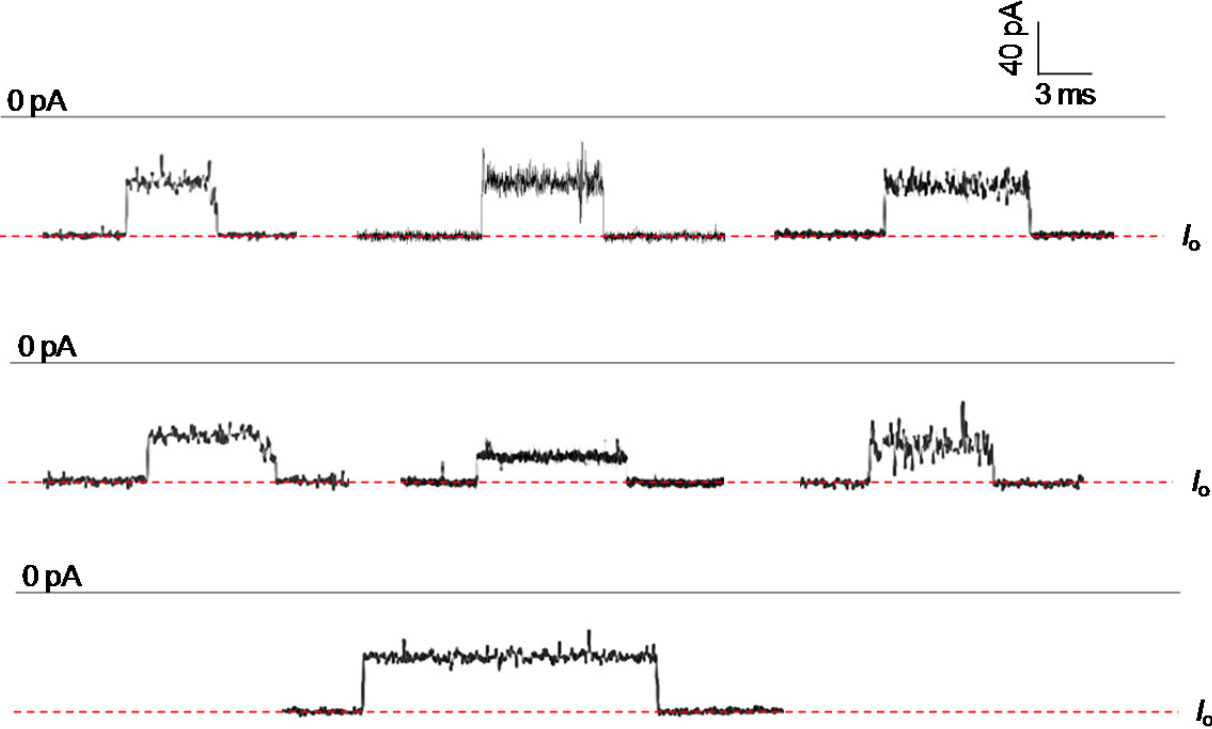   I$_o$

S9

Traces for hTelo 5`-OG

Type 2 Events (hybrid)

Long Type 2 Event (Hybrid G4) hTelo 5`-OG

Unidentifiable events that represent ~7% of the total events

40 pA

3 ms

0 pA ———

I_o

0 pA ———

I_o

0 pA ———

I_o

Traces for hTelo 3`-OG

Type 1 Events (triplex)

Traces for hTelo 3`-OG

Type 2 Events (hybrid)

Long Type 2 Event (Hybrid G4) hTelo 3`-OG

9%

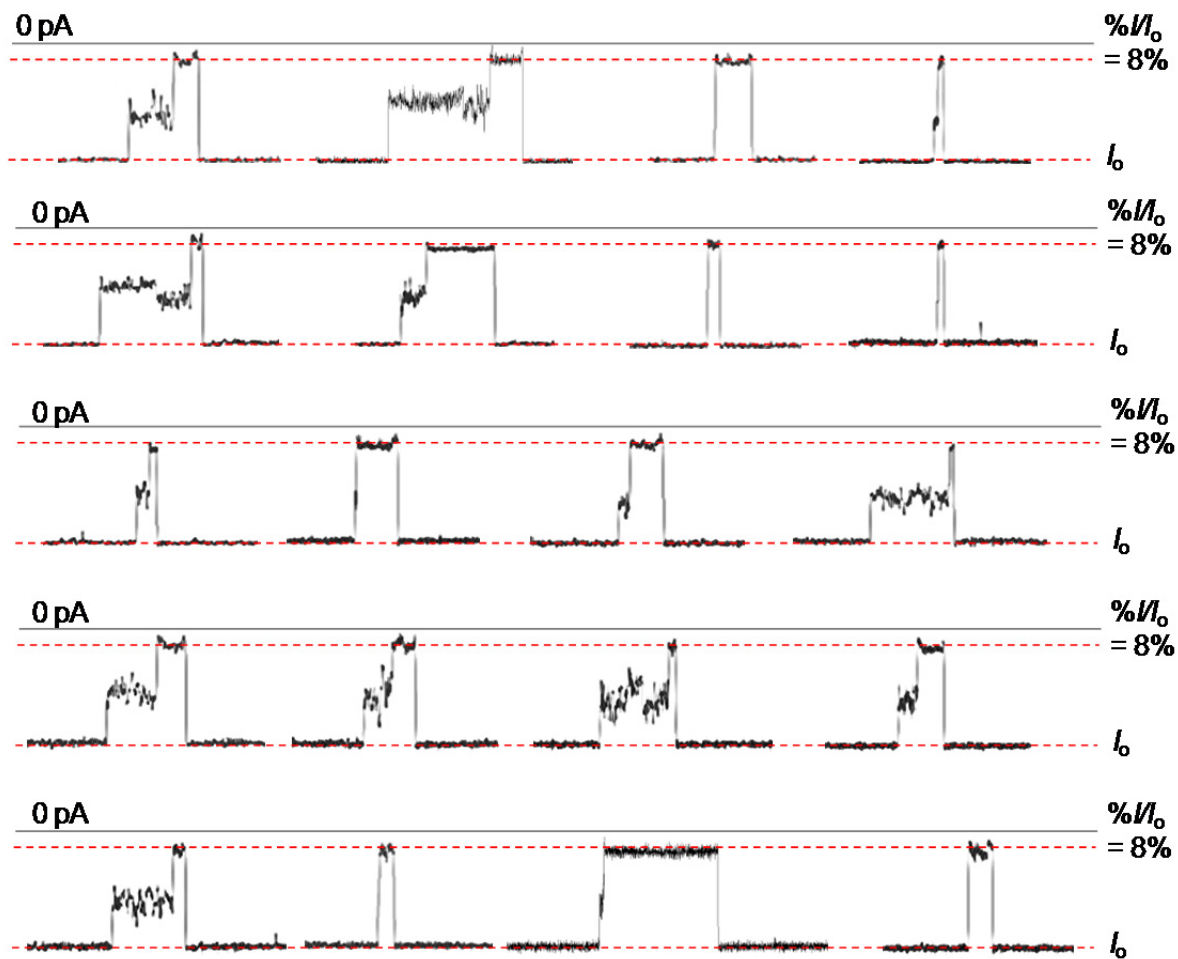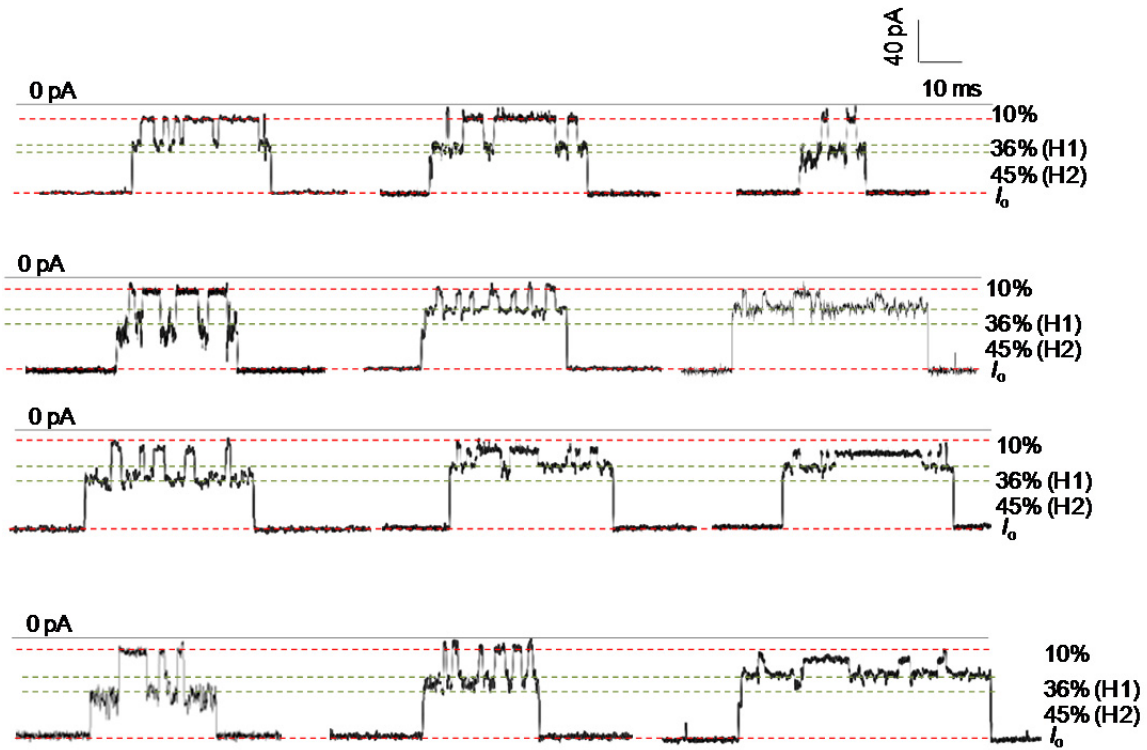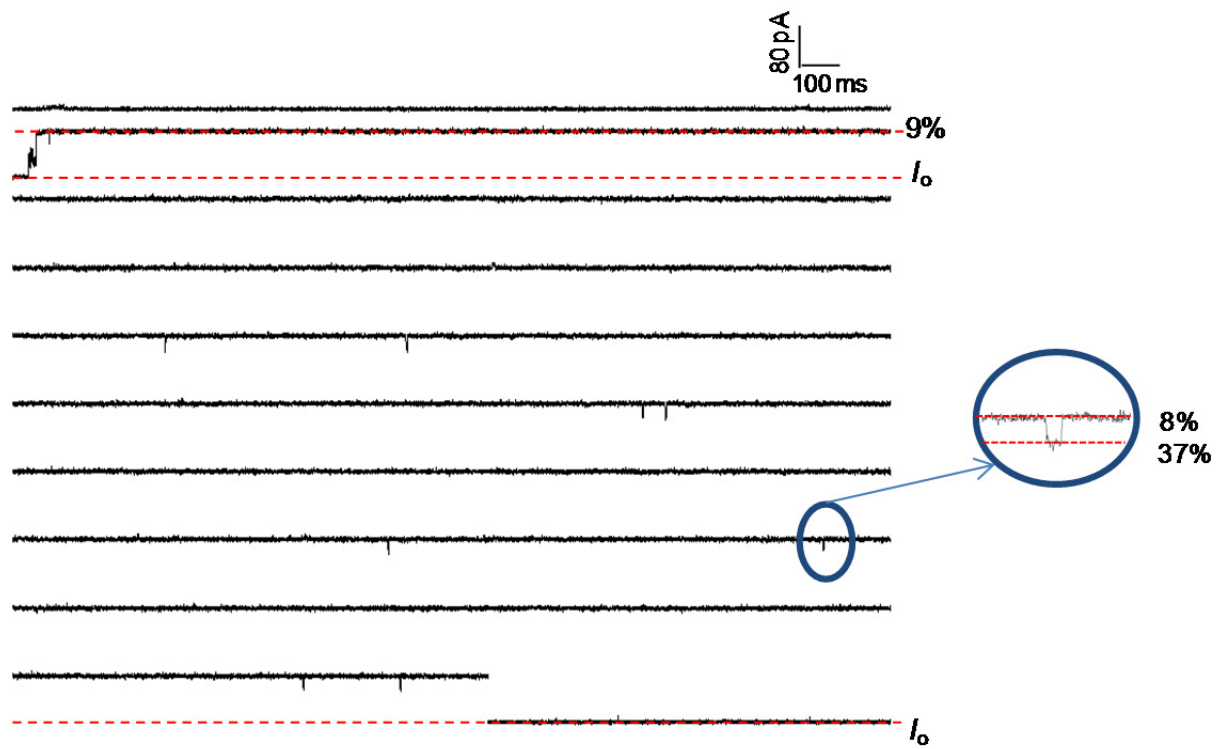I_o

8%
37%

I_o

Unidentifiable events that represent ~7% of the total events
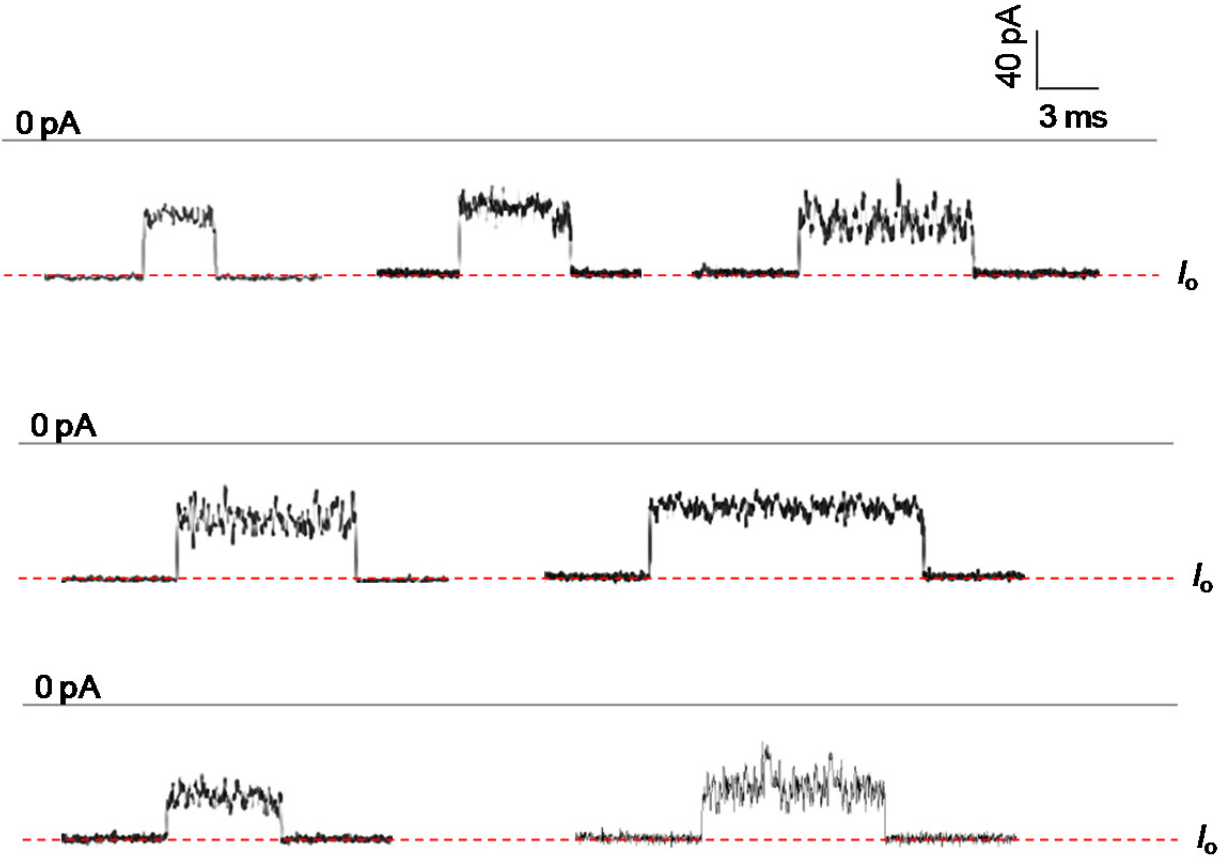
Figure S4. Time dependency on voltage for the triplex fold (Type 1 events).

Voltage (mV)	τ (ms)
100	0.97 ± 0.1
120	0.76 ± 0.1
160	0.43 ± 0.1

Figure S5. Time dependency on voltage for the hybrid folds (Type 2 events).

Voltage (mV)	T (ms)
100	31 ± 5
120	69 ± 9
160	366 ± 31