Electronic Supporting Information

Investigation of Hairpin DNA and Chelerythrine Interaction by Single Bio-nanopore Sensing Interface

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[#] Yuan-Min Liu and Xiu-Yu Fang contributed equally to this work.

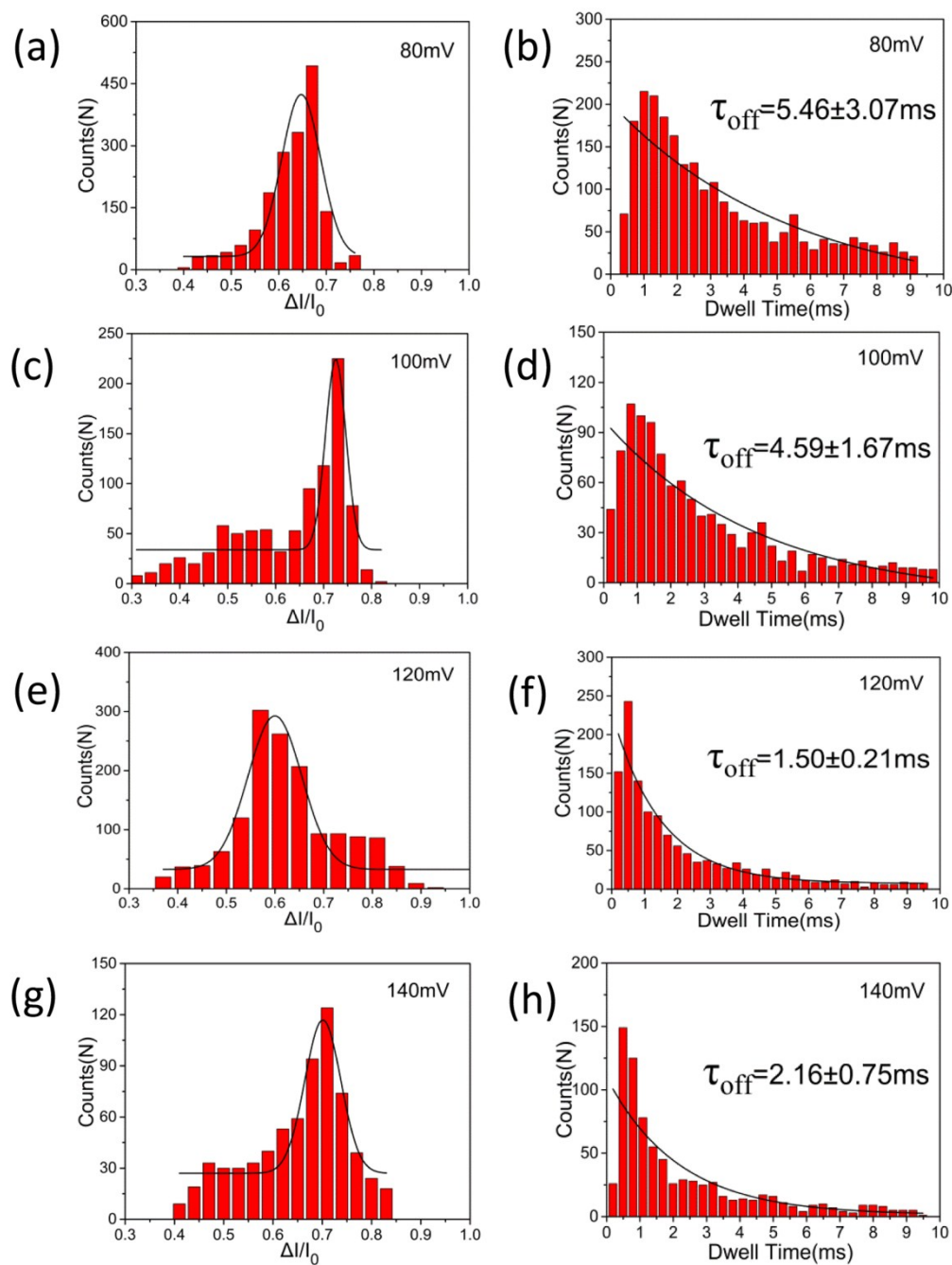# The statistical diagrams for chelerythrine at different voltage bias

Fig. S1 Statistics pulses of chelerythrine at different voltage. (a) Blocking current depth and (b) blocking time at 80 mV. (c) Blocking current depth and (d) blocking time at 100 mV. (e) Blocking current depth and (f) blocking time at 120 mV. (g) Blocking current depth and (h) blocking time at 140 mV.

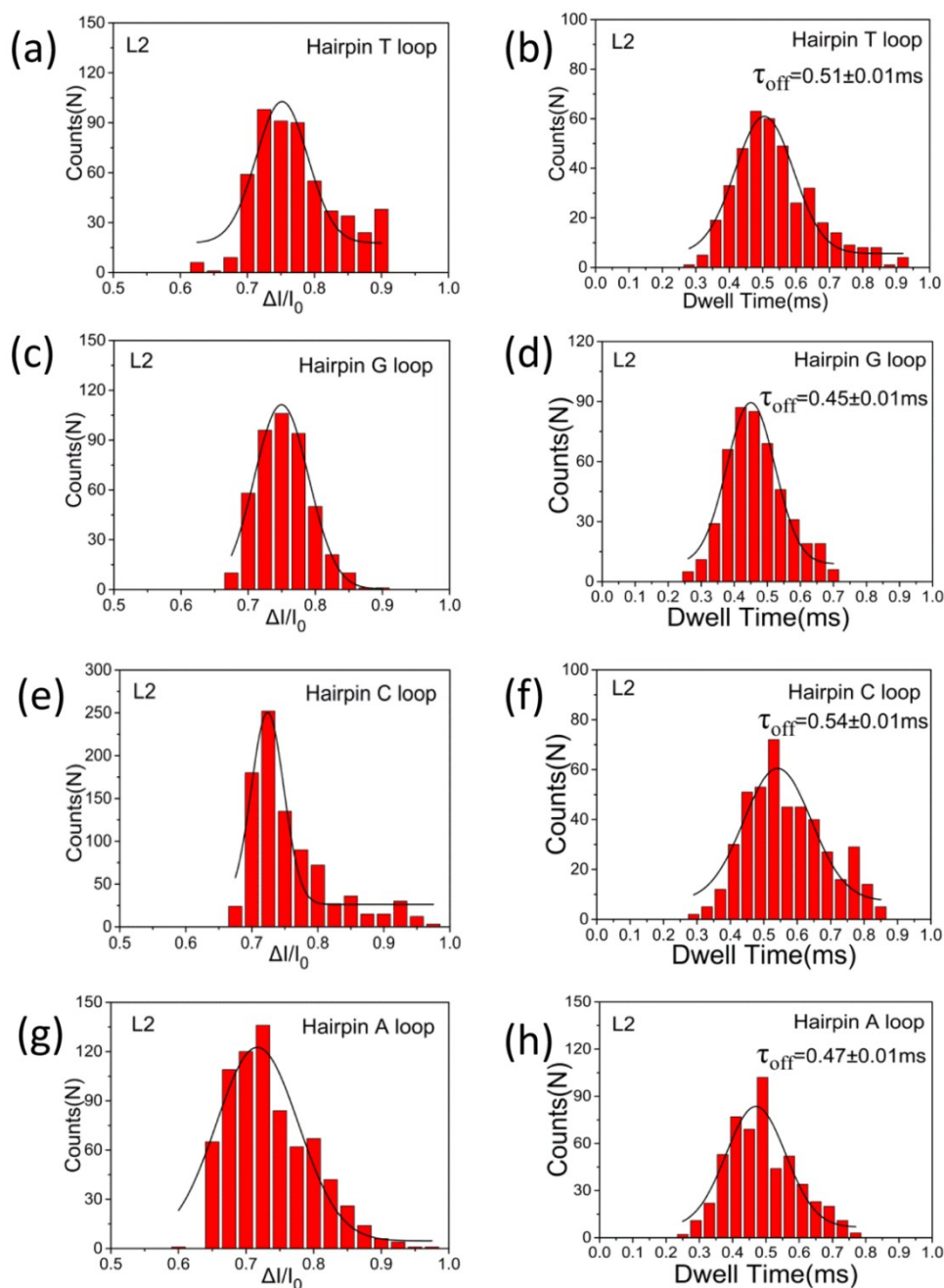# The statistics of L2 for the four hairpin DNA

Fig. S2 Statistics of current pulses obtained at +120 mV, 10 mmol/L Tris, 1 mol/L KCl, 1 mmol/L EDTA (pH=7.0). (a), (c), (e), and (g) were relative blocking current depth diagrams of L2 for X=T、G、C and A molecules, respectively. (b), (d), (f) and (h) were the block time diagrams of L2 for X=T、G、C and A, respectively.

Statistics current pulses of L2 for the four hairpin DNA molecules were shown in Fig. S2. The statistical results are listed in Table S1. According to the statistics results of dwell time of L2 for hairpin DNA in Table S1, the value of L2 for different molecules were almost the same, and consisted with the reported characteristics

current pulse for single-stranded DNA.

Table. S1 Statistics current pulses of L2 for hairpin DNA molecule

Hairpin DNA	Duration (ms)	Blocking current ratio ($\triangle I/I_0$)
X=T	0.51	0.75
X=G	0.45	0.75
X=C	0.54	0.72
X=A	0.47	0.72

The dwell time for hairpin DNA in the presence of CHE
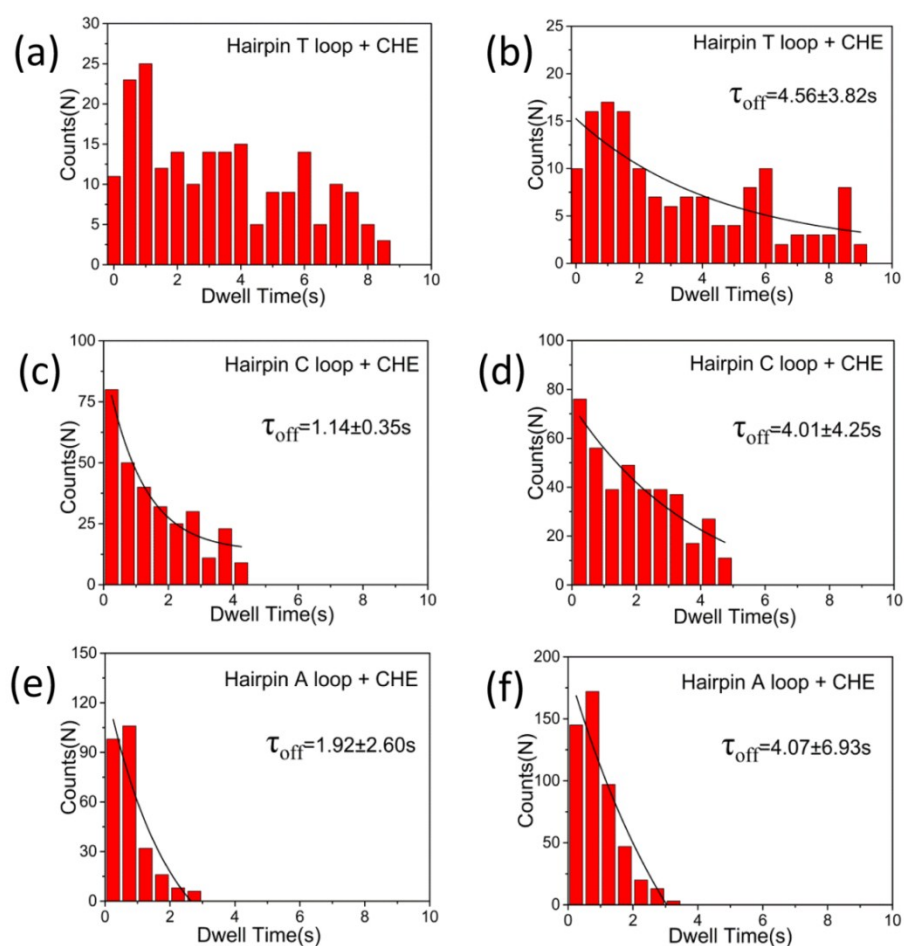

Fig. S3 (a) and (b) were the dwell time for T loop＋CHE. (c) and (d) were the dwell time for C loop＋CHE. (e) and (f) were the dwell time for A loop＋CHE.