Supporting Information

Effect of Diluent Chain Length on the Performance of the Electrochemical DNA Sensor at Elevated Temperature

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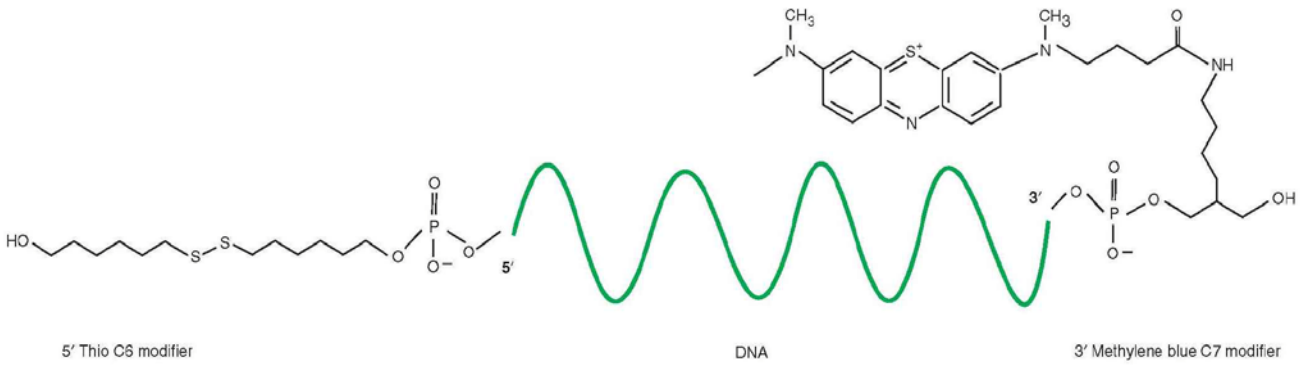

Fig. S-1 Structure of the dual-labeled DNA probe used in this study.

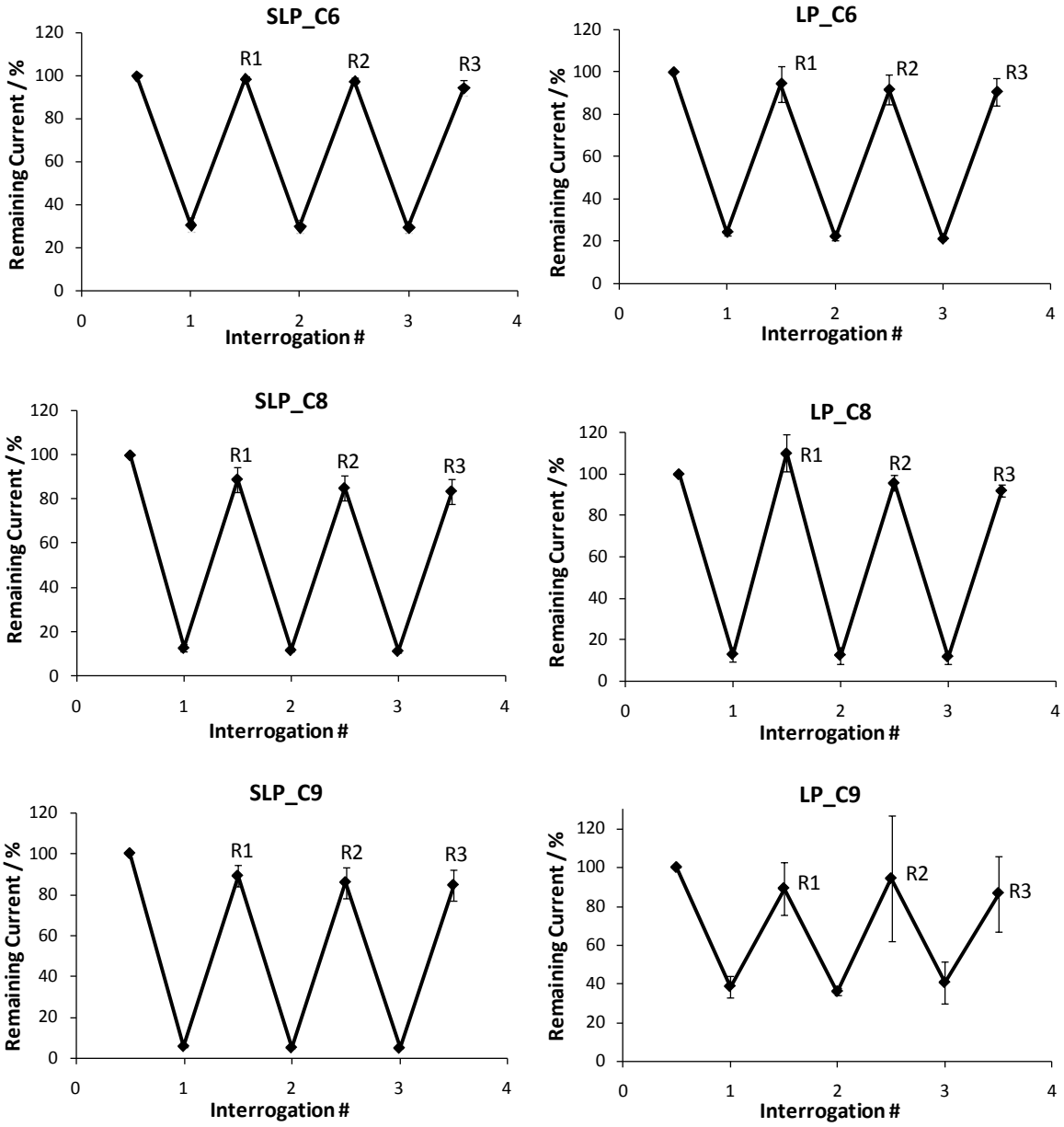

Fig. S-2 SLP and **LP** E-DNA sensors fabricated with alkanethiols with different chain lengths show different sensor regeneration capability. **SLP** sensors display relatively similar sensor regenerability regardless of the diluent chain length. **LP** sensors passivated with C9 show poorer sensor regenerability and reproducibility.

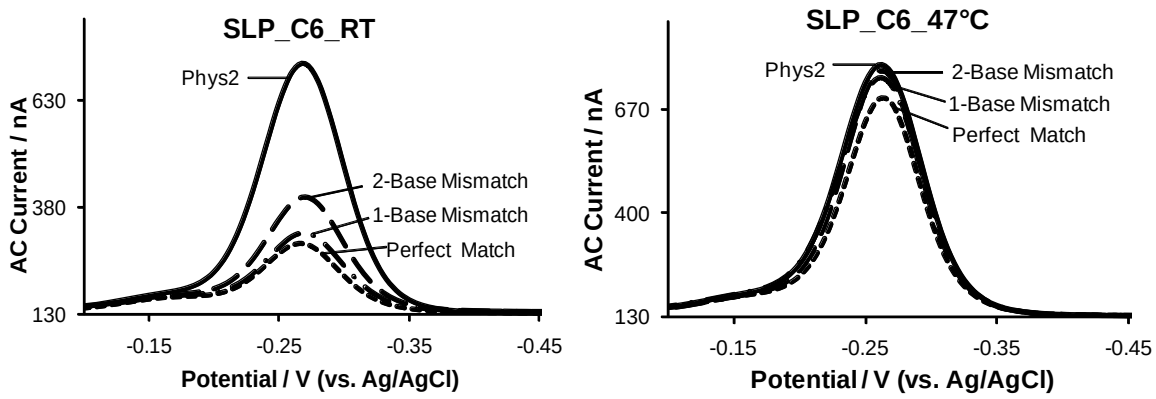

Fig. S-3 Mismatch discrimination capability of **SLP** E-DNA sensors passivated with C6 at room temperature (RT, 21±1°C) and elevated temperature (47±1°C). The concentration of each target DNA was 1.0 μM in a Phys2 buffer (pH 7.4). Of note, the signaling mechanism of the **SLP** sensor at both temperatures should essentially be the same since our circular dichroism data suggest that the probes maintain their stem-loop conformation even when heated to 47°C.

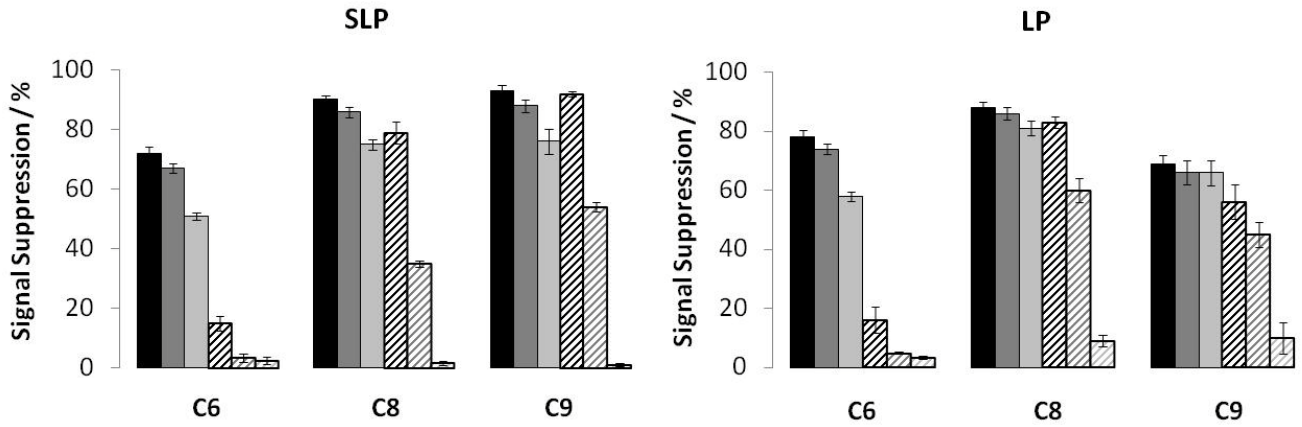

Fig. S-4 Mismatch discrimination capability of E-DNA sensors fabricated with different passivating diluents at room temperature (RT, 21±1°C) and high temperature (47±1°C). ■ RT Perfect Match DNA target; ■ RT 1-Base Mismatch DNA target; ■ RT 2-Base Mismatch DNA target; ▨ 47°C Perfect Match DNA target; ▨ 47°C 1-Base Mismatch DNA target; ▨ 47°C 2-Base Mismatch DNA target. Left: **SLP** E-DNA sensors; Right: **LP** E-DNA sensors. The concentration of each target DNA was 1.0 μM in a Phys2 buffer. Data are averages of three independent experiments and the standard deviations are given.