

Electronic Supplementary Information

**Photoelectrochemical Evaluation of pH Effect on Hole Transport
through Triplex-Forming DNA Immobilized on a Gold Electrode**

Ken-ichi Haruna,* Haruka Iida, Kazuhito Tanabe,* and Sei-ichi Nishimoto*

Department of Energy and Hydrocarbon Chemistry, Graduate School of Engineering,

Kyoto University, Katsura Campus, Kyoto 615-8510, Japan

*corresponding author. Phone: +81-75-383-2500. FAX: +81-75-383-2501,

e-mail: hrn@pg.highway.ne.jp, tanabeka@scl.kyoto-u.ac.jp, nishimot@scl.kyoto-u.ac.jp

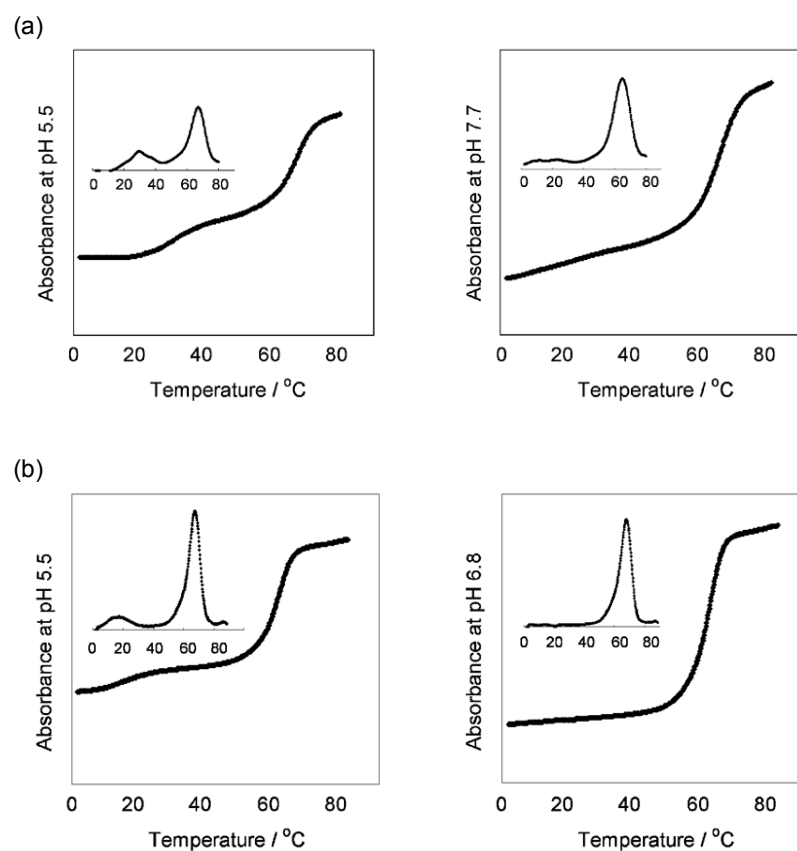


Fig. S1. UV melting curves measured at 260 nm for (a) **Triplex I** ODN 1/(AQ-ODN 2/ODN 3, 2.5 μM) at pH 5.5 (left) and 7.7 (right), (b) UV melting curves for **Triplex II** (AQ-ODN 4/ODN 5/ODN 6, 2.5 μM) at pH 5.5 (left) and 6.8 (right). Insets are the respective corresponding first-derivative curves.



Fig. S2. Autoradiogram of a denaturing gel electrophoresis for ^{32}P -5'-end labeled ODN 4 after photooxidation of **Triplex II** (ODN 4/ODN 5/ODN 6). Each sample in 10 mM sodium cacodylate containing 2 mM MgCl_2 was 365-nm irradiated at 0 °C followed by hot piperidine treatment. Lanes 1, irradiation for 60 min at pH 5.5; lane 2, irradiation for 30 min at pH 5.5 followed by irradiation for 30 min at pH 6.8. The lane labeled G + A is Maxam-Gilbert sequencing lane. The triplex-forming site is indicated by a bracket.