Supplementary Material for Organic & Biomolecular Chemistry

Selective One-Electron Oxidation of Duplex DNA Oligomers: Reaction at Thymine

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Supporting Information

Table S1: Melting temperature data and Circular dichroism data for DNA(1-10) recorded in buffer solution at pH 7.0, the concentration of the duplex DNA is 4 μM.

Oligomer	Melting Temperature (^{0}C)	DNA conformation From CD spectra
DNA (1)	53	B-DNA
DNA (2)	59	B-DNA
DNA (3)	51	B-DNA
DNA (4)	48	B-DNA
DNA (5)	51	B-DNA
DNA (6)	49	B-DNA
DNA (7)	50	B-DNA
DNA (8)	49	B-DNA
DNA (9)	52	B-DNA
DNA (10)	54	B-DNA

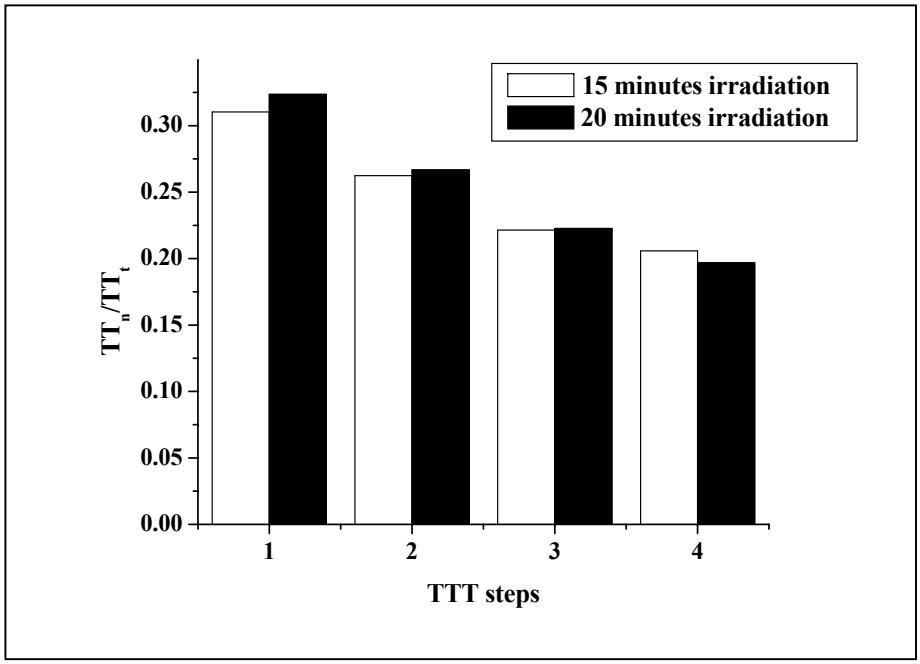

Figure S1. Histogram indicating the amount of damage at each TTT step relative to the total damage at all TTT steps for 15 min of irradiation and 20 min of irradiation of DNA(1). The ratio of damage does not depend on the extent of reaction (time of irradiation), which indicates that the experiments at 15 and 20 min of irradiation are within single hit condition.

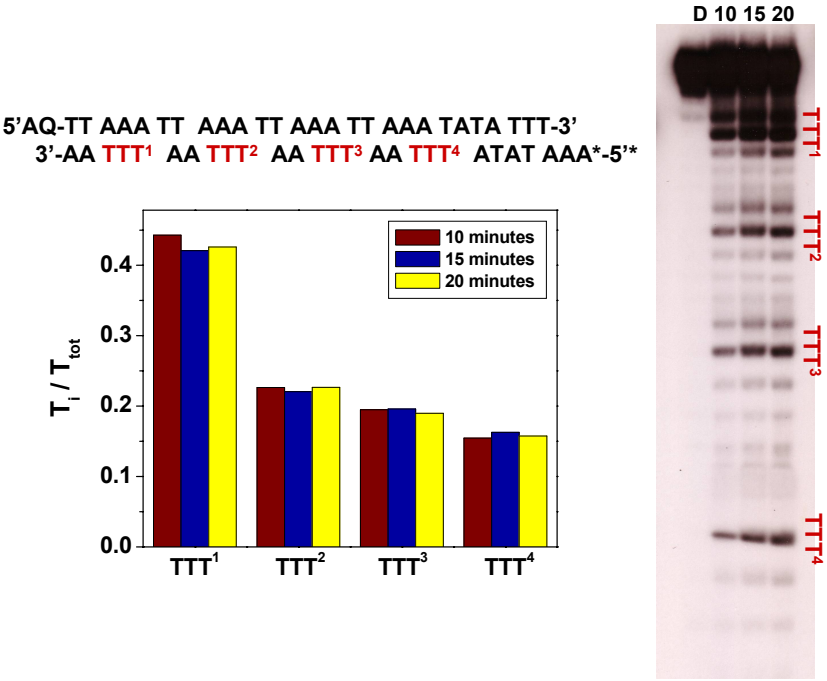

Figure S2 Analysis of the effect of irradiation time on the reaction and strand cleavage of DNA containing only A/T base pairs. The figure on the right is an autoradiogram of the PAGE gel. The bar graph on left is created from the quantitative phosphorimagery results. This experiment demonstrates the reaction regime that corresponds to "single hit conditions".