The Sacrificial Role of Easily Oxidizable Sites in the Protection of DNA from Damage

Sriram Kanvah and Gary B. Schuster*

School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, Georgia 30332 USA

gary.schuster@cos.gatech.edu

Supplementary Material
Figure S1 and S2

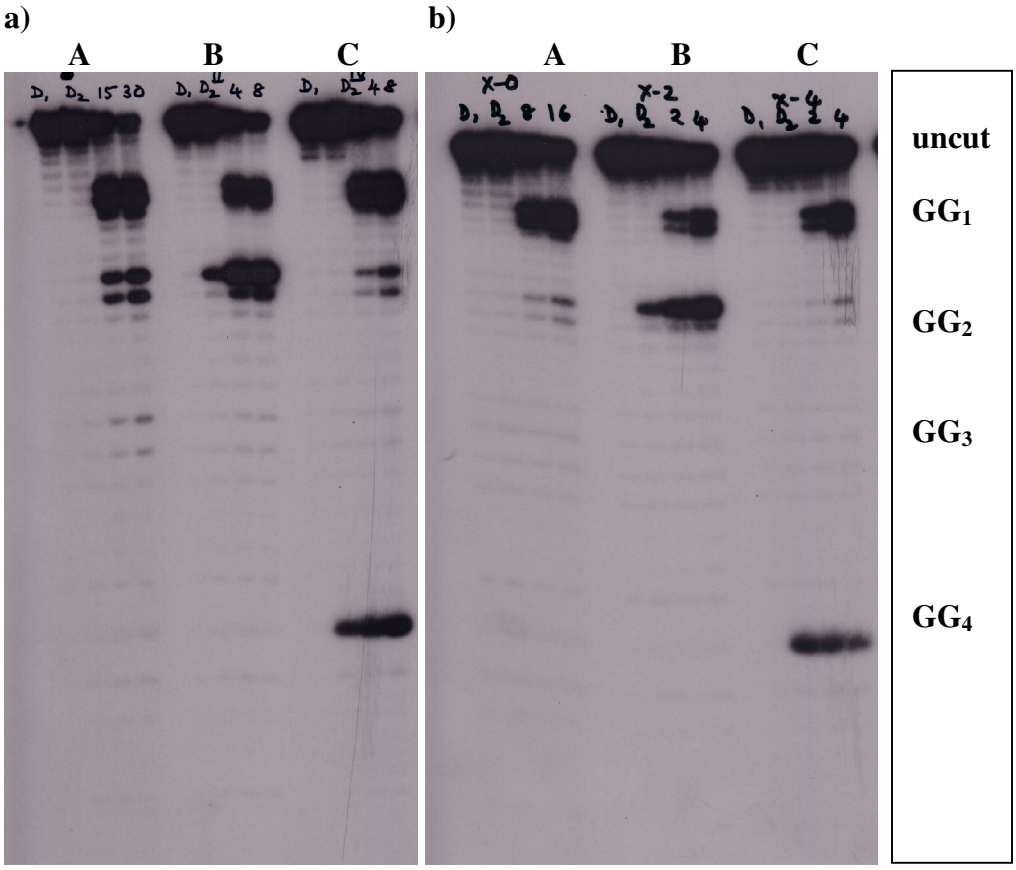

Figure S1. Autoradiograms of DNA (**11-13**) that show the irradiation time dependence of reaction. Lanes marked D1 are dark controls (no exposure to UV light) with no piperidine treatment and D_2 are dark controls with piperidine treatment. In panel a, the experimental DNA samples were irradiated with eight lamps for the times indicated; *i.e.*, 4, 8, 15, or 30 min. Similarly, in panel b the irradiation times are 2, 4, 8, or 16 min. In all cases, the amount of uncut DNA decreases with increasing irradiation time. Extrapolation of the time-dependent series shown here indicates that irradiation for 4 min or less with two lamps will give strand cleavage results that are independent of the extent of reaction (*i.e.*, single hit conditions). Experiments reported in the main text in which the relative amount of strand cleavage is determined were carried out under single hit conditions except where indicated.

Histogram for DNA (**1**)

AQ-AA**GG**AA**GG**AA**GG**AA**GG**AA**GG**AA**GG**AA**GG**AA**GG**AATATA-3′

TTCCTTCCTTCCTTCCTTCCTTCCTTCCTTCCTTATAT-5′

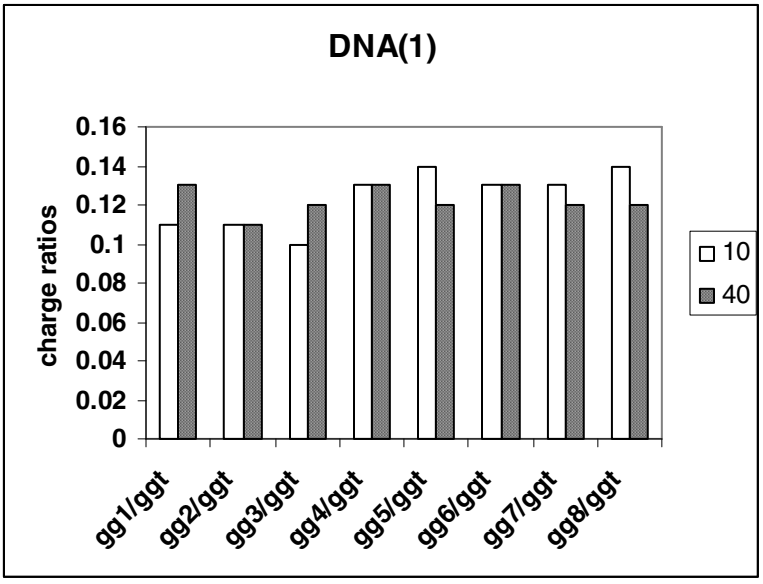

Figure S2. Histogram test of single hit conditions for DNA(**1**), which contains eight equivalent GG steps separated by AA bridges. The samples were irradiated for 10 or 40 min and give equivalent amounts of strand cleavage at each GG step, which is indicative of single hit conditions.