Supporting Information

Effects of the Photooxidant on DNA-Mediated Charge Transport

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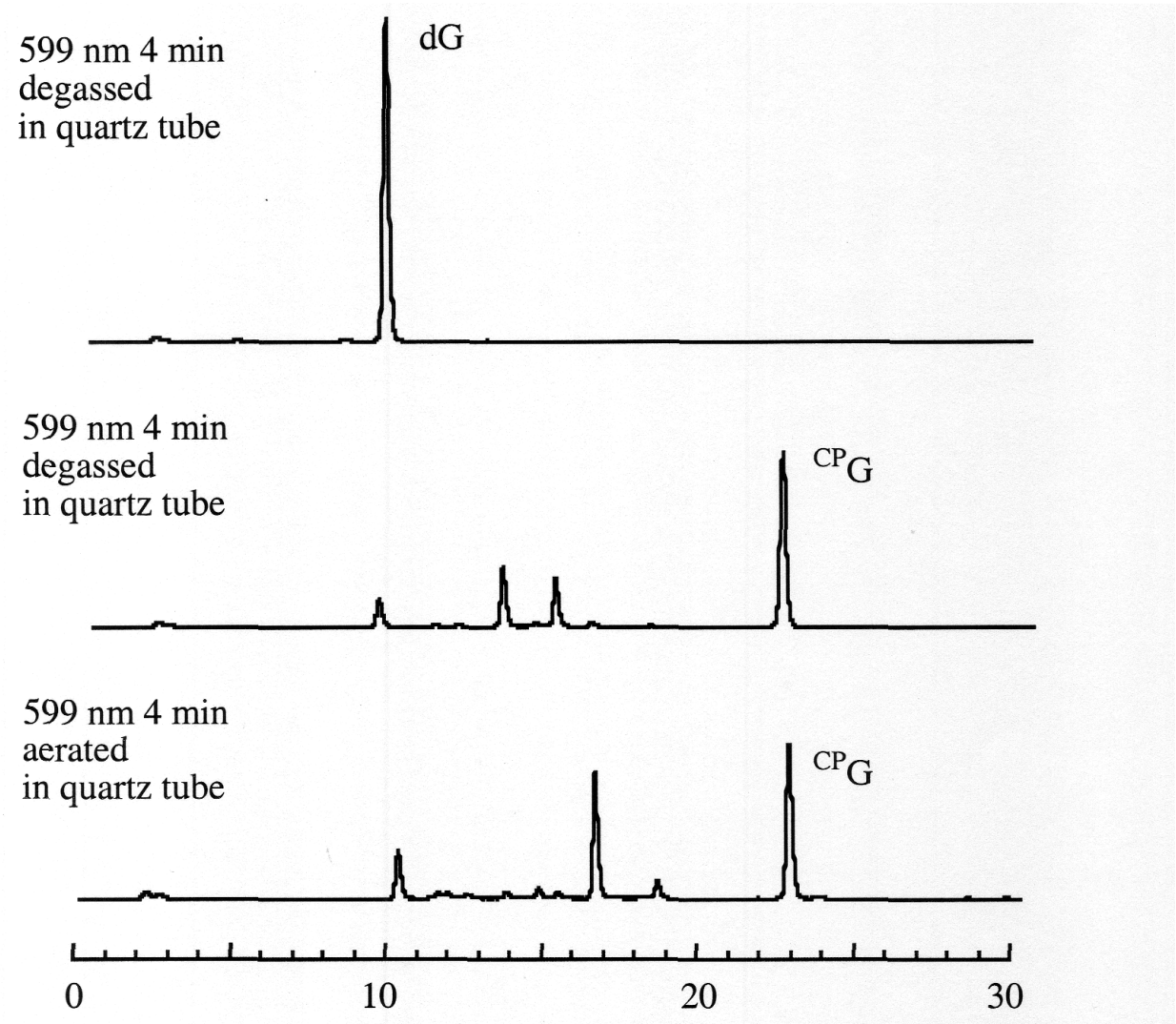
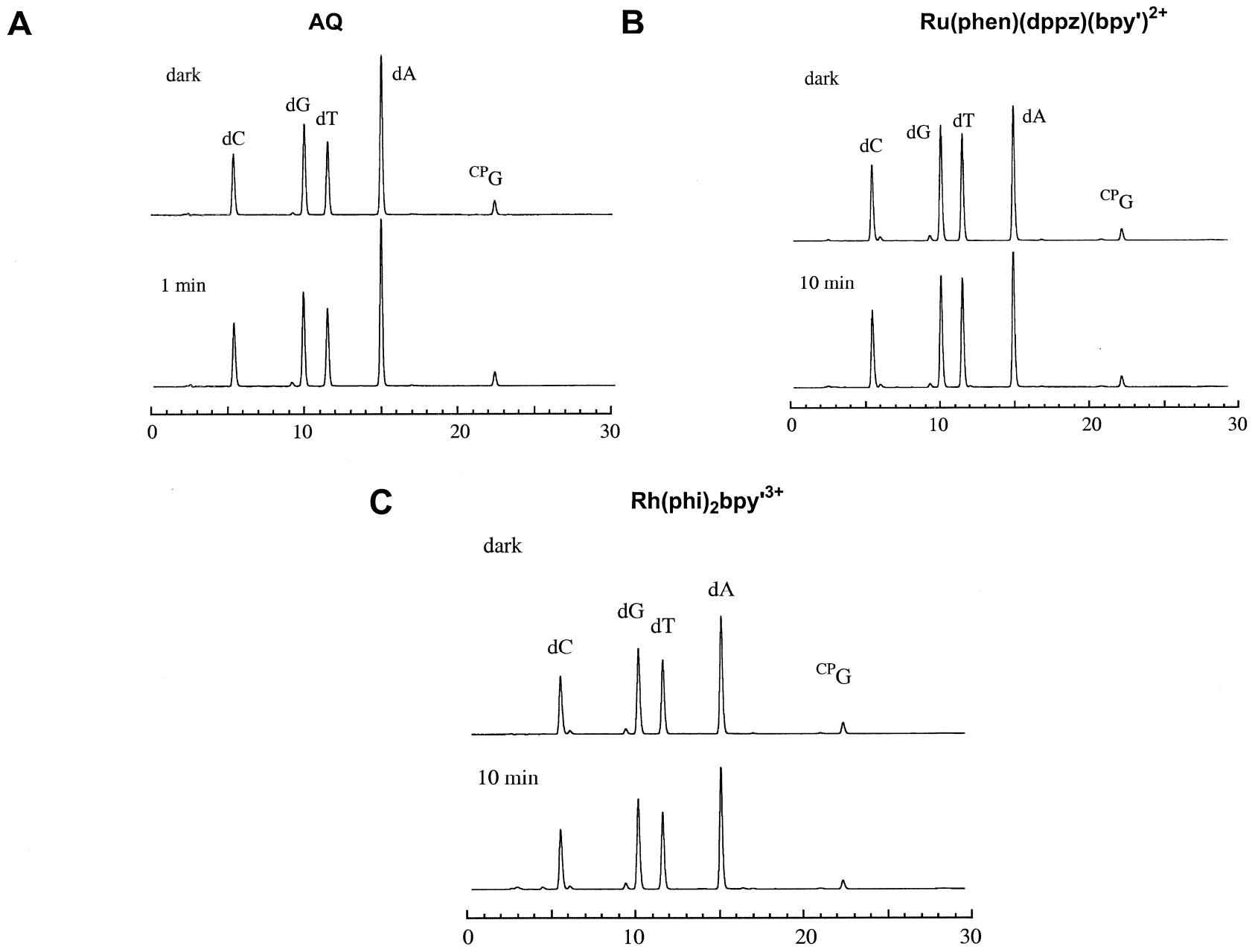
Supporting Figure 1. HPLC profiles of dG and $d^{CP}G$ oxidation by photoexcited thionine. From top to bottom: a degassed solution of dG (250 μM) in 10 mM sodium phosphate (pH 7.6) and 50 mM NaCl, irradiated for 4 minutes at 599 nm in the presence of thionine (25 μM) (top). A degassed solution of $d^{CP}G$ (250 μM) in 10 mM sodium phosphate (pH 7.6) and 50 mM NaCl, irradiated for 4 minutes at 599 nm in the presence of thionine (25 μM) (middle). An aerated solution of $d^{CP}G$ (250 μM) in 10 mM sodium phosphate (pH 7.6) and 50 mM NaCl, irradiated for 4 minutes at 599 nm in the presence of thionine (25 μM) (bottom).

Supporting Figure 2. HPLC profiles of nucleoside mixtures obtained from enzymatic digestion of irradiated ^{CP}G-containing DNA assemblies functionalized with different photooxidants. In all cases, results are shown for the assembly shown in Figure 1 derivatized with ^{CP}G at the distal site. (A) The ^{CP}G-DNA/AQ 2 duplex (5 μM) in 10 mM sodium phosphate (pH 7) was irradiated for one minute at 350 nm followed by enzymatic digestion. (B) The ^{CP}G/Ru assembly (5 μM) in 20 mM Tris-Cl (pH 8.1), 10 mM NaCl, and 25 μM $Co(NH_3)_5Cl^{2+}$ was irradiated for ten minutes at 436 nm followed by enzymatic digestion. (C) The ^{CP}G/Rh assembly (5 μM) in 20 mM Tris-Cl (pH 8.1), 10 mM NaCl was irradiated at 365 nm for ten minutes followed by enzymatic digestion.



Supplemental Figure 1



Supplemental Figure 2