A combination of access to preassociation sites and local accumulation tendency in the direct vicinity of G-N7 controls the rate of platination of single-stranded DNA

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SUPPLEMENTARY INFORMATION

Derivation of rate law

Under present conditions with C_{Pt} >> [DNA–G_{N7}···M^{n+}]

$$C_{Pt} = [Pt^+] + [DNA–P_i···Pt^+] \quad (S1)$$

$$[DNA–P_i···Pt^+] = K_{ass,i}[Pt^+][DNA–P_i···M^{n+}]/[M^{n+}] \quad (S2)$$

$$C_{Pt} = [Pt^+] + K_{ass,i}[Pt^+][DNA–P_i···M^{n+}]/[M^{n+}] \quad (S3)$$

$$[Pt^+] = C_{Pt}\,[M^{n+}]/([M^{n+}] + K_{ass,i}[DNA–P_i···M^{n+}]) \quad (S4)$$

Insertion of eq S4 into 4a gives eq S5

$$k_{obs} = k_2K_{ass}C_{Pt}/([M^{n+}] + K_{ass,i}[DNA–P_i···M^{n+}]) \quad (S5)$$

Identification of the expression for $k_{2,app}$ from eq 4b gives eq 7

$$k_{obs} = k_{2,app}C_{Pt}\,[M^{n+}]/([M^{n+}] + K_{ass,i}[DNA–P_i···M^{n+}]) \quad (7)$$

Supporting information: Derivation of rate equation assuming presence of non-productive phosphate-association.