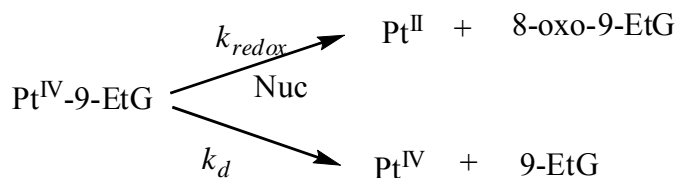


Supporting Information: Derivation of eq. (4)



Nuc = OH⁻ or phosphate

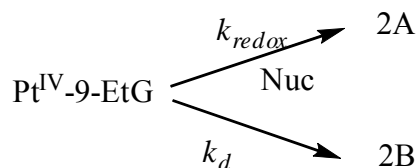
$$\begin{aligned}
 -\frac{d[\text{Pt}^{\text{IV}}\text{-9EtG}]}{dt} &= k_{\text{redox}}[\text{Nuc}][\text{Pt}^{\text{IV}}\text{-9EtG}] + k_d[\text{Pt}^{\text{IV}}\text{-9EtG}] \\
 &= (k_{\text{redox}}[\text{Nuc}]_o + k_d)[\text{Pt}^{\text{IV}}\text{-9EtG}] \\
 &= k_{\text{obs}}[\text{Pt}^{\text{IV}}\text{-9EtG}]
 \end{aligned}$$

$$[\text{Pt}^{\text{IV}}\text{-9-EtG}] = [\text{Pt}^{\text{IV}}\text{-9-EtG}]_o e^{-k_{\text{obs}}t}$$

$$[\text{Pt}^{\text{II}}] = [8\text{-oxo-9-EtG}] \equiv A$$

$$[\text{Pt}^{\text{IV}}] = [9\text{-EtG}] \equiv B$$

Then the reaction can be rewritten as:



Nuc = OH⁻ or phosphate

$$\frac{1}{2} \frac{dA}{dt} = k_{\text{redox}}[\text{Pt}^{\text{IV}}\text{-9-EtG}][\text{Nuc}] = k_{\text{redox}}[\text{Nuc}]_o[\text{Pt}^{\text{IV}}\text{-9-EtG}]_o e^{-k_{\text{obs}}t}$$

$$A = \frac{2k_{\text{redox}}[\text{Nuc}]_o[\text{Pt}^{\text{IV}}\text{-9-EtG}]_o(1 - e^{-k_{\text{obs}}t})}{k_{\text{obs}}}$$

$$\frac{1}{2} \frac{dB}{dt} = k_d[\text{Pt}^{\text{IV}}\text{-9-EtG}] = k_{\text{redox}}[\text{Pt}^{\text{IV}}\text{-9-EtG}]_o e^{-k_{\text{obs}}t}$$

$$B = \frac{2k_d[\text{Pt}^{\text{IV}}\text{-9-EtG}]_o(1 - e^{-k_{\text{obs}}t})}{k_{\text{obs}}}$$

$$\frac{A}{B} = \frac{[8\text{-oxo-9-EtG}]}{[9\text{-EtG}]} = \frac{k_{\text{redox}}[\text{Nuc}]_o}{k_d}$$