- FULL INITIATION $-\!-\!-$

Activation:
$$Q = \frac{h\nu, k_l}{k_{-l}}$$
 $^3Q = \frac{\mathbf{k_l}}{\mathbf{k_{-l}}} \approx 1e8 - 1e10 \quad c^{-1}$

Quenching:

energing:
$$^{3}Q+DH \xrightarrow{k_{diff}} [^{3}Q,DH] \xrightarrow{k_{qE}} [Q^{\bullet-},DH^{\bullet+}]_{s} \xrightarrow{k_{H+}} [QH^{\bullet},D^{\bullet}]_{s} \xrightarrow{k_{diff}} QH^{\bullet}+D^{\bullet} \xrightarrow{k_{\mathbf{qE}}} \approx 1e8 - 1e10 \quad M^{-1}c^{-1}$$

$$\downarrow k_{\mathbf{diff}} \approx 1e8 - 1e10 \quad c^{-1}$$

$$Q_s^{\bullet-} + DH_s^{\bullet+}$$

$$^3Q+QHH$$
 $\xrightarrow{k_{qH}}$ $2QH^{\bullet}$ $\xrightarrow{k_{dQ}}$ $Q+QHH$ $\begin{pmatrix} \mathbf{k_{qH}} & \approx 1e5 - 1e9 & M^{-1}c^{-1} \\ \mathbf{k_{redQ}} & \approx 1e3 & M^{-1}c^{-1} \\ \mathbf{k_{dQ}} & \approx 1e9 & M^{-1}c^{-1} \end{pmatrix}$

Radicals:

dicals:
$$QH^{\bullet} + D^{\bullet} \xrightarrow{k_r} QHD \xrightarrow{k_p} QHH + \text{N-prod} \xrightarrow{\mathbf{k_r}} \approx 1e7 - 1e9 \xrightarrow{M^{-1}c^{-1}} \mathbf{k_p} \approx 1e-5 - 1e-3 \xrightarrow{c^{-1}}$$

$$2D^{\bullet} \xrightarrow{k_{rD-rec}} \text{D-D} \qquad \qquad \mathbf{k_{rD-rec}} \approx 1e10 \quad M^{-1}c^{-1}$$
 $2D^{\bullet} \xrightarrow{k_{rD-dis}} \text{DH + N-prod} \xrightarrow{\mathbf{k_{rD-dis}}} \approx 1e9 \quad M^{-1}c^{-1}$

Photolysis:
$${}^{3}Q \xrightarrow{k_{Ph}} \text{prod} \quad \mathbf{k_{Ph}} \approx 1\text{e-}4 - 1\text{e-}3 \quad c^{-1}$$

----- SIMPLE SYSTEM -

Activation: $Q \xrightarrow{h\nu, k_l} {}^3Q \quad \mathbf{k_l} \approx 0.1 \quad c^{-1}$

Quenching:
$${}^3Q+DH \xrightarrow{k_{diff}} QH^{\bullet}+D^{\bullet} \xrightarrow{k_r} QHD \xrightarrow{k_p} QHH+N-prod \begin{bmatrix} \mathbf{k_{diff}} & \approx 1e8 - 1e10 & M^{-1}c^{-1} \\ \mathbf{k_r} & \approx 1e7 - 1e9 & M^{-1}c^{-1} \\ \mathbf{k_p} & \approx 1e-5 - 1e-3 & M^{-1}c^{-1} \end{bmatrix}$$

Radicals:

$$2QH^{\bullet} \xrightarrow{k_{dQ}} Q + QHH \quad \mathbf{k_{dQ}} \approx 1e9 \quad M^{-1}c^{-1}$$

$$2D^{\bullet} \xrightarrow{k_{rD-rec}} \text{D-D} \qquad \mathbf{k_{rD-rec}} \approx 1e10 \quad M^{-1}c^{-1}$$

$$2D^{\bullet} \xrightarrow{k_{rD-dis}} \text{DH + N-prod} \xrightarrow{\mathbf{k_{rD-dis}}} \approx 1e9 \quad M^{-1}c^{-1}$$

——— FULL POLIMERIZATION —

Propagation:	$D^{\bullet} + M \xrightarrow{k_{init}} \sim P_{1}^{\bullet}$ $\sim P_{n}^{\bullet} + M \xrightarrow{k_{prop}} \sim P_{n+1}^{\bullet}$ $M^{\bullet} + M \xrightarrow{k} \sim P_{2}^{\bullet}$	$egin{aligned} k_{ ext{init}} \ k_{ ext{prop}} \end{aligned}$	$\approx 1e2 - 1e4$ $\approx 1e2 - 1e4$	
Transfer:	$\sim P_n^{\bullet} + \operatorname{Sol} \xrightarrow{k_{trans-sol}} Sol^{\bullet} + \sim P_n$		≈ 5	
	$\sim P_n^{\bullet} + M \xrightarrow{k_{trans-m}} M^{\bullet} + \sim P_n$		\approx 1e-3 - 1	
${\bf Inhibition}:$	$\sim P_n^{\bullet} + Z \xrightarrow{k_{inh}} Z^{\bullet} + \sim P_n$	$\mathbf{k_{inh}}$	\approx 1e2 - 1e3	$M^{-1}c^{-1}$
	$\sim P_n^{\bullet} + Q \xrightarrow{k_{inh}} QH^{\bullet} + \sim P_n$			
${\bf Termination:}$	$\sim P_n^{\bullet} \xrightarrow{k_{ter-lin}} \sim P_n$	$\mathbf{k_{ter-l}}$	≈ 0	c^{-1}
	$\sim P_n^{ullet} + \sim P_k^{ullet} \stackrel{k_{ter-rec}}{\longrightarrow} \sim P_n - P_k \sim$	$\mathbf{k_{ter-rec}}$	\approx 1e7 - 1e8	$M^{-1}c^{-1}$
	$\sim P_n^{\bullet} + \sim P_k^{\bullet} \xrightarrow{k_{ter-disp}} \sim P_{n-1} = CH_2 + \sim P_{k-1} - CH_3$	$k_{\rm ter-disp}$	\approx 1e7 - 1e8	$M^{-1}c^{-1}$

SIMPLE POLIMERIZATION —