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

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

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

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

$$^3Q + QHD \xrightarrow{k_{qQD}} QH^{\bullet} + QD^{\bullet} \quad \mathbf{k_{qQD}} \approx ? \quad M^{-1}c^{-1}$$

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

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

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

$$Q+D^{\bullet}$$
 k_{D} QD^{\bullet} k_{D} $\approx ?(1)$ $M^{-1}c^{-1}$ k_{-D} $\approx (0.05)$ c^{-1}

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

——— SIMPLE SYSTEM —

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

Quenching:

$${}^{3}Q+DH \xrightarrow{k_{H+}} QH^{\bullet}+D^{\bullet} \xrightarrow{\mathbf{k_{H+}}} \approx 1e8 - 1e10 \quad M^{-1}c^{-1}$$

$${}^{3}Q+QHH \xrightarrow{k_{qH}} 2QH^{\bullet} \xrightarrow{k_{redQ}} Q+QHH \xrightarrow{\mathbf{k_{qH}}} \approx 1e5 - 1e9 \quad M^{-1}c^{-1}$$

$${}^{4}\mathbf{k_{redQ}} \approx 1e9 \qquad M^{-1}c^{-1}$$

Other:

$$QH^{\bullet} + D^{\bullet} \xrightarrow{k_r} QHD \quad \mathbf{k_r} \approx ?(1e9) \quad c^{-1}$$

——— FULL POLIMERIZATION —

	$D^{\bullet} + M \xrightarrow{k_{init}} \sim P_1^{\bullet}$	$\mathbf{k_{init}}$	\approx	$M^{-1}c^{-1}$
Propagation:	$\sim P_n^{\bullet} + M \xrightarrow{k_{prop}} \sim P_{n+1}^{\bullet}$	$\mathbf{k_{prop}}$	\approx 1e2 - 1e4	$M^{-1}c^{-1}$
	$M^{\bullet} + M \xrightarrow{k_{prop}} \sim P_2^{\bullet}$			
Transfer:	$\sim P_n^{\bullet} + \text{Sol} \xrightarrow{k_{trans-sol}} Sol^{\bullet} + \sim P_n$		≈ 5	
	$\sim P_n^{\bullet} + M \xrightarrow{k_{trans} - m} M^{\bullet} + \sim P_n$		\approx 1e-3 - 1	
	$\sim P_n^{\bullet} + Z \xrightarrow{k_{inh}} Z^{\bullet} + \sim P_n$	$\mathbf{k_{inh}}$	\approx 1e2 - 1e3	$M^{-1}c^{-1}$
Termination:	$\sim P_n^{\bullet} \xrightarrow{k_{ter-lin}} \sim P_n$		\approx ?	
	$\sim P_n^{\bullet} + \sim P_k^{\bullet} \xrightarrow{k_{ter-rec}} \sim P_n - P_k \sim$	$\mathbf{k_{ter-rec}}$	\approx 1e7 - 1e8	$M^{-1}c^{-1}$
	$\sim P^{\bullet} + \sim P^{\bullet} \xrightarrow{k_{ter-disp}} \sim P$ $\downarrow = CH_0 + \sim P_1 \downarrow - CH_0$	k	~	$M^{-1}c^{-1}$

SIMPLE POLIMERIZATION —

	$D^{\bullet} + M \xrightarrow{k_{init}} \sim P^{\bullet}$	$\mathbf{k_{init}}$	$\approx M^{-1}c^{-1}$
Propagation:	$\sim P_n^{\bullet} + M \xrightarrow{k_{prop}} \sim P_{n+1}^{\bullet}$	$\mathbf{k_{prop}}$	$\approx M^{-1}c^{-1}$
	$M^{\bullet} + M \xrightarrow{k_{prop}} \sim P_2^{\bullet}$		
	$\sim P_n^{\bullet} + Z \xrightarrow{k_{inh}} Z^{\bullet} + \sim P_n$	$\mathbf{k_{inh}}$	$\approx M^{-1}c^{-1}$
Termination:	$\sim P_n^{\bullet} \xrightarrow{k_{ter-lin}} \sim P_n$	$\mathbf{k_{ter-l}}$	$\approx M^{-1}c^{-1}$
	$\sim P_n^{\bullet} + \sim P_k^{\bullet} \xrightarrow{k_{ter-rec}} \sim P_n - P_k \sim$		$\approx M^{-1}c^{-1}$
	$\sim P_n^{\bullet} + \sim P_k^{\bullet} \xrightarrow{k_{ter-disp}} \sim P_{n-1} = CH_2 + \sim P_{k-1} - CH_3$	$k_{\rm ter-disp}$	$\approx M^{-1}c^{-1}$