FULL INITIATION

Activation: $Q \underset{k_{-l}}{\overset{h\nu,\, k_l}{\rightleftharpoons}} {}^3Q$

$\mathbf{k_l}$	$\approx$ 1e8 - 1e10	c^{-1}
$\mathbf{k_{-l}}$	$\approx$ 1e5 - 1e6	c^{-1}

Quenching:

$${}^3Q + DH \xrightarrow{k_{diff}} [{}^3Q, DH] \underset{k_{-qE}}{\overset{k_{qE}}{\rightleftharpoons}} [Q^{\bullet -}, DH^{\bullet +}]_s \xrightarrow{k_{H+}} [QH^{\bullet}, D^{\bullet}]_s \xrightarrow{k_{diff}} QH^{\bullet} + D^{\bullet}$$

$\mathbf{k_{qE}}$	$\approx$ 1e8 - 1e10	$M^{-1}c^{-1}$
$\mathbf{k_{-qE}}$	$\approx$ 1e7 - 1e9	c^{-1}
$\mathbf{k_{H+}}$	$\approx$ 1e8 - 1e10	c^{-1}
$\mathbf{k_{diff}}$	$\approx$ 1e8 - 1e9	c^{-1}

$${}^3Q + QHH \xrightarrow{k_{qH}} 2QH^{\bullet} \underset{k_{redQ}}{\overset{k_{dQ}}{\rightleftharpoons}} Q + QHH$$

$\mathbf{k_{qH}}$	$\approx$ 1e5 - 1e9	$M^{-1}c^{-1}$
$\mathbf{k_{redQ}}$	$\approx$ 1e3	$M^{-1}c^{-1}$
$\mathbf{k_{dQ}}$	$\approx$ 1e9	$M^{-1}c^{-1}$

$${}^3Q + QHD \xrightarrow{k_{qQD}} QH^{\bullet} + QD^{\bullet}$$

$\mathbf{k_{qQD}}$	$\approx$?	$M^{-1}c^{-1}$

Radicals:

$$QH^{\bullet} + D^{\bullet} \xrightarrow{k_r} QHD \xrightarrow{k_p} QHH + \text{N-prod}$$

$\mathbf{k_r}$	$\approx$ 1e7 - 1e9	$M^{-1}c^{-1}$
$\mathbf{k_p}$	$\approx$ 1e-5 - 1e-3	c^{-1}

$$2D^{\bullet} \xrightarrow{k_{rD-rec}} \text{D-D}$$
$$2D^{\bullet} \xrightarrow{k_{rD-dis}} \text{DH + N-prod}$$

$\mathbf{k_{rD-rec}}$	$\approx$ 1e10	$M^{-1}c^{-1}$
$\mathbf{k_{rD-dis}}$	$\approx$ 1e9	$M^{-1}c^{-1}$

$$Q + D^{\bullet} \underset{k_{-D}}{\overset{k_D}{\rightleftharpoons}} QD^{\bullet}$$

$\mathbf{k_D}$	$\approx$?(1)	$M^{-1}c^{-1}$
$\mathbf{k_{-D}}$	$\approx$ (0.05)	c^{-1}

Photolysis: ${}^3Q \xrightarrow{k_{Ph}} \text{prod}$

$\mathbf{k_{Ph}}$	$\approx$ 1e-4 - 1e-3	c^{-1}

SIMPLE SYSTEM

Activation: $Q \underset{k_{-l}}{\overset{h\nu,\, k_l}{\rightleftharpoons}} {}^3Q$

$\mathbf{k_l}$	$\approx$ 1e8 - 1e10	c^{-1}
$\mathbf{k_{-l}}$	$\approx$ 1e5 - 1e6	c^{-1}

Quenching:

$${}^3Q + DH \xrightarrow{k_{H+}} QH^\bullet + D^\bullet$$

$\mathbf{k_{H+}}$	$\approx$ 1e8 - 1e10	$M^{-1}c^{-1}$

$${}^3Q + QHH \xrightarrow{k_{qH}} 2QH^\bullet \xrightarrow{k_{redQ}} Q + QHH$$

$\mathbf{k_{qH}}$	$\approx$ 1e5 - 1e9	$M^{-1}c^{-1}$
$\mathbf{k_{redQ}}$	$\approx$ 1e9	$M^{-1}c^{-1}$

Other:

$$QH^\bullet + D^\bullet \xrightarrow{k_r} QHD$$

$\mathbf{k_r}$	$\approx$?(1e9)	c^{-1}

FULL POLIMERIZATION

Initiation:	$D^\bullet + \mathrm{M} \xrightarrow{k_{init}} \sim P_1^\bullet$		$\mathbf{k_{init}}$	$\approx$	$M^{-1}c^{-1}$
Propagation:	$\sim P_n^\bullet + \mathrm{M} \xrightarrow{k_{prop}} \sim P_{n+1}^\bullet$		$\mathbf{k_{prop}}$	$\approx$ 1e2 - 1e4	$M^{-1}c^{-1}$
	$M^\bullet + \mathrm{M} \xrightarrow{k_{prop}} \sim P_2^\bullet$				
Transfer:	$\sim P_n^\bullet + \mathrm{Sol} \xrightarrow{k_{trans-sol}} Sol^\bullet + \sim P_n$		$\mathbf{k_{trans-sol}}$	$\approx$ 5	$M^{-1}c^{-1}$
	$\sim P_n^\bullet + \mathrm{M} \xrightarrow{k_{trans-m}} M^\bullet + \sim P_n$		$\mathbf{k_{trans-m}}$	$\approx$ 1e-3 - 1	$M^{-1}c^{-1}$
Inhibition:	$\sim P_n^\bullet + \mathrm{Z} \xrightarrow{k_{inh}} Z^\bullet + \sim P_n$		$\mathbf{k_{inh}}$	$\approx$ 1e2 - 1e3	$M^{-1}c^{-1}$
Termination:	$\sim P_n^\bullet \xrightarrow{k_{ter-lin}} \sim P_n$		$\mathbf{k_{ter-l}}$	$\approx$?	c^{-1}
	$\sim P_n^\bullet + \sim P_k^\bullet \xrightarrow{k_{ter-rec}} \sim P_n\text{–}P_k\sim$		$\mathbf{k_{ter-rec}}$	$\approx$ 1e7 - 1e8	$M^{-1}c^{-1}$
	$\sim P_n^\bullet + \sim P_k^\bullet \xrightarrow{k_{ter-disp}} \sim P_{n-1} = CH_2 + \sim P_{k-1} - CH_3$		$\mathbf{k_{ter-disp}}$	$\approx$	$M^{-1}c^{-1}$

SIMPLE POLIMERIZATION

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