$$\frac{d}{dt}[N] = \underbrace{-(\ \kappa_{L*}[N] - \kappa'_{L*}[L]\ )}_{\text{Latentization}*} \underbrace{-(\ \kappa_A[N] - \kappa'_A[I]\ )}_{\text{Activation}} \underbrace{-\kappa_D a_{NI}[N][I]}_{\text{Dimerization}} \underbrace{+\kappa_R(2b_{NN} + b_{NI})[2]}_{\text{Dimer dissociation}}$$

$$\underbrace{-\kappa_M \sum_{p=2}^{\infty} a_{Np}[N][p]}_{\text{Monomer addition}} \underbrace{+\kappa_R \sum_{p=2}^{\infty} b_{Np}[p+1]}_{\text{Monomer release}}$$

$$\frac{d}{dt}[I] = \underbrace{-(\ \kappa_L[I] - \kappa'_L[L]\ )}_{\text{Latentization}} \underbrace{+(\ \kappa_A[N] - \kappa'_A[I]\ )}_{\text{Activation}} \underbrace{-\kappa_D\,(\ a_{NI}[N] + 2a_{II}[I])\,[I]}_{\text{Dimerization}}$$

$$\underbrace{-\kappa_M \sum_{p=2}^{\infty} a_{Ip}[I][p]}_{\text{Monomer addition}} \underbrace{+\kappa_R \sum_{p=2}^{\infty} b_{Ip}[p+1]}_{\text{Monomer release}} \underbrace{+\kappa_R(2b_{II} + b_{NI})[2]}_{\text{Dimer dissociation}}$$

$$\frac{d}{dt}[L] = \underbrace{-(\ \kappa_L[I] - \kappa'_L[L]\ )}_{\text{Latentization}} \underbrace{-(\ \kappa_{L*}[N] - \kappa'_{L*}[L]\ )}_{\text{Latentization}*}$$

$$\underset{\{p>1\}}{\frac{d}{dt}[p]} = \underbrace{+\kappa_D\,(\ a_{NI}[N] + a_{II}[I]\ )\,[I]\ \delta_{p2}}_{\text{Dimerization}} \underbrace{+\kappa_R\,(\ b_{NI} + b_{NN} + b_{II}\ )\,[2]\ \delta_{p2}}_{\text{Dimer dissociation}}$$

$$\underbrace{+\kappa_M\,(\ a_{Np-1}[N] + a_{Ip-1}[I]\ )\,[p-1]\ (1-\delta_{p2}) - \kappa_M\,(\ a_{Np}[N] + a_{Ip}[I]\ )\,[p]}_{\text{Monomer addition}}$$

$$\underbrace{-\kappa_R\,(\ b_{Np-1} + b_{Ip-1}\ )\,[p]\ (1-\delta_{p2}) + \kappa_R\,(\ b_{Np} + b_{Ip}\ )\,[p+1]}_{\text{Monomer release}}$$

$$\underbrace{+\kappa_P \frac{1}{2} \sum_{j=2}^{p-2} a_{j,p-j}[j][p+j] - \kappa_P \sum_{j=2}^{\infty} a_{jp}[j][p]}_{\text{Polymer} - \text{PolymerAssociation}} \underbrace{-\kappa_F \frac{1}{2} \sum_{j=2}^{p-2} a_{j,p-j}[p] + \kappa_F \sum_{j=2}^{\infty} a_{jp}[p+j]}_{\text{Fragmentation}}$$

$$- -$$

$$\frac{d}{dt}M_w = \frac{M_1^2}{c} \sum_{ij=1}^{\infty} ij\,\{\ a_{ij}c\kappa_P[i][j] - b_{ij}\kappa_F[i+j]\ \} = 1 + a_{NI}c\kappa_A\kappa_D t^2 + O\left(t^3\right)$$