|  |
| --- |
| **Table S6 :** Equations governing the reduced model  |
| $$\frac{d[DivK\~P]}{dt} = -k\_{deg-dkp}∙\left[DivK\~P\right]- k\_{pc-ph1}∙\left[PleC\right]∙\left[DivK\~P\right]+k\_{ph1-pc}∙\left[PleC\_{h1}\right]-k\_{ph1-pk11}∙\left[PleC\_{ph1}\right]∙\left[DivK\~P\right]+k\_{pk11-ph1}∙\left[PleC\_{kin11}\right] -k\_{ph2-pk12}∙\left[PleC\_{ph2}\right]∙\left[DivK\~P\right]+ k\_{pk12-ph2}∙\left[PleC\_{kin12}\right]-k\_{pk1-pk0}∙\left[PleC\_{kin1}\right]∙\left[DivK\~P\right]+k\_{pk0-pk1}∙\left[PleC\_{kin0}\right]- k\_{pk3-pk2}∙\left[PleC\_{kin3}\right]∙\left[DivK\~P\right]+ k\_{pk2-pk3}∙\left[PleC\_{kin2}\right] + k\_{pt2-pk1h}∙\left[PleC\_{pt2}\right]-k\_{pk1h-pt2}∙\left[PleC\_{kin1h}\right]∙\left[DivK\~P\right]-k\_{pk2p-pk1} ∙\left[PleC\_{kin2p}\right]∙\left[DivK\~P\right]+ k\_{pk1-pk2p}∙\left[PleC\_{kin1}\right]- k\_{pk1p-pk1h}∙\left[PleC\_{kin1p}\right]∙\left[DivK\~P\right]+ k\_{pk1h-pk1p}∙\left[PleC\_{kin1h}\right]+k\_{pt3-pk1p} ∙\left[PleC\_{pt3}\right]- k\_{pk1p-pt3}∙\left[PleC\_{kin1p}\right]∙\left[DivK\~P\right]+ k\_{e-jk}∙\left[DivJ:DivK\right] - k\_{pk3h-pt4}∙\left[PleC\_{kin3h}\right]∙\left[DivK\~P\right]+ k\_{pt4-pk3h}∙\left[PleC\_{pt4}\right]+ k\_{h1-h2}∙\left[PleC\_{ph1}\right]∙\left[DivK\right]- k\_{h2-h1}∙\left[PleC\_{ph2}\right]∙\left[DivK\~P\right]-k\_{dl-dldk}∙\left[DivL\right]∙\left[DivK\~P\right]+ k\_{dldk-dl}∙\left[DivL:DivK\~P\right] $$ | 1 |
| $$\frac{d\left[DivK\right]}{dt} = k\_{syn-dk}-k\_{deg-dk}∙\left[DivK\right]- k\_{pc-ph2}∙\left[PleC\right]∙\left[DivK\right]+k\_{ph2-pc}∙\left[PleC\_{h2}\right]- k\_{ph2-pk22}∙\left[PleC\_{ph2}\right]∙\left[DivK\right]+ k\_{pk22-ph2}∙\left[PleC\_{kin22}\right]-k\_{ph1-pk12}∙\left[PleC\_{ph1}\right]∙\left[DivK\right]+ k\_{pk12-ph1}∙\left[PleC\_{kin12}\right]-k\_{pk1-pk2}∙\left[PleC\_{kin1}\right]∙\left[DivK\right]+k\_{pk2-pk1}∙\left[PleC\_{kin2}\right]- k\_{pk3-pk4}∙\left[PleC\_{kin3}\right]∙\left[DivK\right]+ k\_{pk4-pk3}∙\left[PleC\_{kin4}\right]- k\_{pk2p-pk3}∙\left[PleC\_{pk2p}\right]∙\left[DivK\right]+k\_{pk3-pk2p}∙\left[PleC\_{kin3}\right]-k\_{j-jk}∙\left[DivJ\right]∙\left[DivK\right]+ k\_{jk-j}∙\left[DivJ:DivK\right]- k\_{ph1-pk12}∙\left[PleC\_{h1}\right]∙\left[DivK\right]+ k\_{pk12-ph1}∙\left[PleC\_{kin12}\right]- k\_{pk1p-pk3h}∙\left[PleC\_{kin1p}\right]∙\left[DivK\right]+k\_{pk3h-pk1p}∙\left[PleC\_{kin3h}\right]- k\_{h1-h2}∙\left[PleC\_{ph1}\right]∙\left[DivK\right]+ k\_{h2-h1}∙\left[PleC\_{ph2}\right]∙\left[DivK\~P\right] $$ | 2 |
| $$\frac{d\left[PleC\right]}{dt} = - k\_{pc-ph2}∙\left[PleC\right]∙\left[DivK\right]+k\_{ph2-pc}∙\left[PleC\_{h2}\right] - k\_{pc-ph1}∙\left[PleC\right]∙\left[DivK\~P\right]+k\_{ph1-pc}∙\left[PleC\_{h1}\right]+k\_{ph2p-pc}∙\left[PleC\_{h2p}\right]+k\_{ph1p-pc}∙\left[PleC\_{h1p}\right]$$ | 3 |
| $$\frac{d\left[PleC\_{ph1}\right]}{dt} = k\_{pc-ph1}∙\left[PleC\right]∙\left[DivK\~P\right]-k\_{ph1-pc}∙\left[PleC\_{h1}\right]- k\_{ph1-pk11}∙\left[PleC\_{ph1}\right]∙\left[DivK\~P\right]+ k\_{pk11-ph1}∙\left[PleC\_{kin11}\right] - k\_{ph1-pk12}∙\left[PleC\_{ph1}\right]∙\left[DivK\right] + k\_{pk12-ph1}∙\left[PleC\_{kin12}\right]-k\_{h1-h2}∙\left[PleC\_{ph1}\right]∙\left[DivK\right]+k\_{h2-h1}∙\left[PleC\_{ph2}\right]∙\left[DivK\~P\right]-k\_{ph1-ph2}∙\left[PleC\_{ph1}\right]+k\_{ph2-ph1}∙\left[PleC\_{ph2}\right] $$ | 4 |
| $$\frac{d\left[PleC\_{ph2}\right]}{dt} = k\_{pc-ph2}∙\left[PleC\right]∙\left[DivK\right]-k\_{ph2-pc}∙\left[PleC\_{ph2}\right] - k\_{ph2-pk22}∙\left[PleC\_{ph2}\right]∙\left[DivK\right]+ k\_{pk22-ph2}∙\left[PleC\_{kin22}\right] -k\_{ph2-pk12}∙\left[PleC\_{ph2}\right]∙\left[DivK\~P\right]+ k\_{pk12-ph2}∙\left[PleC\_{kin12}\right]+k\_{h1-h2}∙\left[PleC\_{ph1}\right]∙\left[DivK\right]-k\_{h2-h1}∙\left[PleC\_{ph2}\right]∙\left[DivK\~P\right] +k\_{ph1-ph2}∙\left[PleC\_{ph1}\right]-k\_{ph2-ph1}∙\left[PleC\_{ph2}\right] $$ | 5 |
| $$ \frac{d\left[PleC\_{kin11}\right]}{dt} =k\_{ph1-p11}∙\left[PleC\_{ph1}\right]∙\left[DivK\~P\right]-k\_{pk11-ph1}∙\left[PleC\_{kin11}\right]- k\_{pk11-pk0}∙\left[PleC\_{kin11}\right]+ k\_{pk0-pk11}∙\left[PleC\_{kin0}\right]+ k\_{pt4-pk11}∙\left[PleC\_{pt4}\right]- k\_{pk11-pt4}∙\left[PleC\_{kin11}\right]$$ | 6 |
| $$\frac{d\left[PleC\_{kin12}\right]}{dt} =k\_{ph2-pk12}∙\left[PleC\_{ph2}\right]∙\left[DivK\~P\right]- k\_{pk12-ph2}∙\left[PleC\_{kin12}\right]+ k\_{ph1-pk12}∙\left[PleC\_{ph1}\right]∙\left[DivK\right]- k\_{pk12-ph1}∙\left[PleC\_{kin12}\right]- k\_{pk22-pk2}∙\left[PleC\_{kin22}\right]+ k\_{pk2-pk22}∙\left[PleC\_{kin2}\right]$$ | 7 |
| $$ \frac{d\left[PleC\_{kin22}\right]}{dt} =k\_{ph2-pk22}∙\left[PleC\_{h2}\right]∙\left[DivK\right]- k\_{pk22-ph2}∙\left[PleC\_{kin22}\right]\_{}- k\_{p22-pk4}∙\left[PleC\_{kin22}\right]+ k\_{pk4-pk22}∙\left[PleC\_{kin4}\right]$$ | 8 |
| $$\frac{d\left[PleC\_{kin0}\right]}{dt} = k\_{pk11-pk0}∙\left[PleC\_{kin11}\right]- k\_{pk0-pk11}∙\left[PleC\_{kin0}\right] - k\_{pk0-pk1}∙\left[PleC\_{kin0}\right]+ k\_{pk1-pk0}∙\left[PleC\_{kin1}\right]∙\left[DivK\~P\right]$$ | 9 |
| $$\frac{d\left[PleC\_{kin2}\right]}{dt} = k\_{pk12-pk2}∙\left[PleC\_{kin12}\right]-k\_{pk2-pk11}∙\left[PleC\_{kin2}\right]- k\_{pk2-pk1}∙\left[PleC\_{kin2}\right]+k\_{pk1-pk2}∙\left[PleC\_{kin1}\right]∙\left[DivK\right]- k\_{pk2-pk3}∙\left[PleC\_{kin2}\right]+ k\_{pk3-pk2}∙\left[PleC\_{kin3}\right]∙\left[DivK\~P\right]+ k\_{pt2-pk2}∙\left[PleC\_{pt2}\right]- k\_{pk2-pt2}∙\left[PleC\_{kin2}\right]$$ | 10 |
| $$\frac{d\left[PleC\_{kin4}\right]}{dt} = k\_{pk22-pk4}∙\left[PleC\_{kin22}\right]-k\_{pk4-pk22}∙\left[PleC\_{kin4}\right]-k\_{pk4-pk3}∙\left[PleC\_{kin4}\right]+ k\_{pk3-pk4}∙\left[PleC\_{kin3}\right]∙\left[DivK\right] + k\_{pt4-pk4}∙\left[PleC\_{pt4}\right]- k\_{pk4-pt4}∙\left[PleC\_{kin4}\right]$$ | 11 |
| $$\frac{d\left[PleC\_{kin1}\right]}{dt} =-k\_{pk1-pk0}∙\left[PleC\_{kin1}\right]∙\left[DivK\~P\right]+k\_{pk0-pk1}∙\left[PleC\_{kin0}\right] -k\_{pk1-pk2}∙\left[PleC\_{kin1}\right]∙\left[DivK\right]+k\_{pk2-pk1}∙\left[PleC\_{kin2}\right]+ k\_{pk2p-pk1} ∙\left[PleC\_{kin2p}\right]∙\left[DivK\~P\right]- k\_{pk1-pk2p}∙\left[PleC\_{kin1}\right]+ k\_{pk1h-pk1}∙\left[PleC\_{kin1h}\right]- k\_{pk1-pk1h}∙\left[PleC\_{kin1}\right]- k\_{pk1-pk5}∙\left[PleC\_{kin1}\right]∙\left[PleD\right]+ k\_{pk5-pk1}∙\left[PleC\_{kin5}\right] $$ | 12 |
| $$\frac{d\left[PleC\_{kin3}\right]}{dt} =-k\_{pk3-pk2}∙\left[PleC\_{kin3}\right]∙\left[DivK\~P\right]+k\_{pk2-pk3}∙\left[PleC\_{kin2}\right] -k\_{pk3-pk4}∙\left[PleC\_{kin3}\right]∙\left[DivK\right]+k\_{pk4-pk3}∙\left[PleC\_{kin4}\right]+ k\_{pk2p-pk3} ∙\left[PleC\_{kin2p}\right]∙\left[DivK\right]- k\_{pk3-pk2p}∙\left[PleC\_{kin3}\right]+ k\_{pk3h-pk3}∙\left[PleC\_{kin3h}\right]-k\_{pk3-pk3h}∙\left[PleC\_{kin3}\right]+ k\_{pt3-pk3}∙\left[PleC\_{pt3}\right]- k\_{pk3-pt3}∙\left[PleC\_{kin3}\right]- k\_{pk3-pk6}∙\left[PleC\_{kin3}\right]∙\left[PleD\right]+ k\_{pk6-pk3}∙\left[PleC\_{kin6}\right]$$ | 13 |
| $$\frac{d\left[PleC\_{pt2}\right]}{dt} = k\_{pk1h-pt2}∙\left[PleC\_{kin1h}\right]∙\left[DivK\~P\right]- k\_{pt2-pk1h}∙\left[PleC\_{pt2}\right]- k\_{pt2-pk2}∙\left[PleC\_{pt2}\right]+ k\_{pk2-pt2}∙\left[PleC\_{kin2}\right]$$ | 14 |
| $$\frac{d\left[PleC\_{pt3}\right]}{dt} = k\_{pk1p-pt3}∙\left[PleC\_{kin1p}\right]∙\left[DivK\~P\right]- k\_{pt3-pk1p}∙\left[PleC\_{pt3}\right]- k\_{pt3-pk3}∙\left[PleC\_{pt3}\right]+ k\_{pk3-pt3}∙\left[PleC\_{kin3}\right]$$ | 15 |
| $$\frac{d\left[PleC\_{pt4}\right]}{dt} = k\_{pk3h-pt4}∙\left[PleC\_{kin3h}\right]∙\left[DivK\~P\right]- k\_{pt4-pk3h}∙\left[PleC\_{pt4}\right]- k\_{pt4-pk4}∙\left[PleC\_{pt4}\right]+ k\_{pk4-pt4}∙\left[PleC\_{kin4}\right] - k\_{pt4-p11}∙\left[PleC\_{pt4}\right]+ k\_{p11-pt4}∙\left[PleC\_{kin11}\right]$$ | 16 |
| $$\frac{d\left[PleC\_{kin1h}\right]}{dt} = - k\_{pk1h-pt2}∙\left[PleC\_{kin1h}\right]∙\left[DivK\~P\right]+ k\_{pt2-pk1h}∙\left[PleC\_{pt2}\right]-k\_{pk1h-pk1}∙\left[PleC\_{kin1h}\right]+ k\_{pk1-pk1h}∙\left[PleC\_{kin1}\right]+ k\_{pk1p-pk1h}∙\left[PleC\_{kin1p}\right]∙\left[DivK\~P\right]- k\_{pk1h-pk1p}∙\left[PleC\_{kin1h}\right] - k\_{pk1h-pt5}∙\left[PleC\_{kin1h}\right]∙\left[PleD\~P\right]+ k\_{pt5-pk1h}∙\left[PleC\_{pt5}\right]$$ | 17 |
| $$\frac{d\left[PleC\_{kin3h}\right]}{dt} = -k\_{pk3h-pk3}∙\left[PleC\_{kin3h}\right]+ k\_{pk3-pk3h}∙\left[PleC\_{kin3}\right]+ k\_{pk1p-pk3h}∙\left[PleC\_{kin1p}\right]∙\left[DivK\right]- k\_{pk3h-pk1p}∙\left[PleC\_{kin3h}\right]- k\_{pk3h-pt4}∙\left[PleC\_{kin3h}\right]∙\left[DivK\~P\right]+ k\_{pt4-pk3h}∙\left[PleC\_{pt4}\right]- k\_{pk3h-pt6}∙\left[PleC\_{kin3h}\right]∙\left[PleD\~P\right]+ k\_{pt6-pk3h}∙\left[PleC\_{pt6}\right]$$ | 18 |
| $$\frac{d\left[PleC\_{kin2p}\right]}{dt} = -k\_{pk2p-pk1} ∙\left[PleC\_{kin2p}\right]∙\left[DivK\~P\right]+ k\_{pk1-pk2p}∙\left[PleC\_{kin1}\right] - k\_{pk2p-pk3}∙\left[PleC\_{pk2p}\right]∙\left[DivK\right]+k\_{pk3-pk2p}∙\left[PleC\_{kin3}\right] - k\_{pk2p-pc}∙\left[PleC\_{kin2p}\right]$$ | 19 |
| $$\frac{d\left[PleC\_{kin1p}\right]}{dt} = -k\_{pk1p-pk1h} ∙\left[PleC\_{kin1p}\right]∙\left[DivK\~P\right]+ k\_{pk1h-pk1p}∙\left[PleC\_{kin1h}\right] - k\_{pk1p-pt3}∙\left[PleC\_{pk1p}\right]∙\left[DivK\right]+k\_{pt3-pk1p}∙\left[PleC\_{pt3}\right] - k\_{pk1p-pc}∙\left[PleC\_{kin1p}\right]- k\_{pk1p-pk3h}∙\left[PleC\_{kin1p}\right]∙\left[DivK\right]+ k\_{pk3h-pk1p}∙\left[PleC\_{kin3h}\right]$$ | 20 |
| $$\frac{d\left[DivJ\right]}{dt} = -k\_{j-jk}∙\left[DivJ\right]∙\left[DivK\right]+ k\_{jk-j}∙\left[DivJ:DivK\right]+ k\_{e-jk}∙[DivJ:DivK]$$ | 21 |
| $$\frac{d\left[DivJ:DivK\right]}{dt} = k\_{j-jk}∙\left[DivJ\right]∙\left[DivK\right]- k\_{jk-j}∙\left[DivJ:DivK\right]- k\_{e-jk}∙[DivJ:DivK]$$ | 22 |
| $$\frac{d\left[PleD\right]}{dt} = k\_{syn-pld}- k\_{deg-pld}∙\left[PleD\right]- k\_{pk1-pk5}∙\left[PleC\_{kin1}\right]∙\left[PleD\right]+k\_{pk5-pk1}∙\left[PleC\_{kin5}\right] - k\_{pk3-pk6}∙\left[PleC\_{kin3}\right]∙\left[PleD\right]+k\_{pk6-pk3}∙\left[PleC\_{kin6}\right] +k\_{e-ph3}∙\left[Phos:PleD\~P\right]$$ | 23 |
| $$\frac{d\left[PleD\~P\right]}{dt} = - k\_{deg-pldp}∙\left[PleD\~P\right]- k\_{pk1h-pt5}∙\left[PleC\_{kin1h}\right]∙\left[PleD\~P\right]+ k\_{pt5-pk1h}∙\left[PleC\_{pt5}\right]- k\_{pk3h-pt6}∙\left[PleC\_{kin3h}\right]∙\left[PleD\~P\right]+ k\_{pt6-pk3h}∙\left[PleC\_{pt6}\right]- k\_{phos-ph3}∙\left[Phos\right]∙\left[PleD\~P\right]+ k\_{ph3-phos}∙\left[Phos:PleD\~P\right]$$ | 24 |
| $$\frac{d\left[PleC\_{kin5}\right]}{dt} = k\_{pk1-pk5}∙\left[PleC\_{kin1}\right]∙\left[PleD\right]-k\_{pk5-pk1}∙\left[PleC\_{kin5}\right]-k\_{pk5-pt5}∙\left[PleC\_{kin5}\right]+k\_{pt5-pk5}∙\left[PleC\_{pt5}\right] $$ | 25 |
| $$\frac{d\left[PleC\_{kin6}\right]}{dt} = k\_{pk3-pk6}∙\left[PleC\_{kin3}\right]∙\left[PleD\right]-k\_{pk6-pk3}∙\left[PleC\_{kin6}\right]-k\_{pk6-pt6}∙\left[PleC\_{kin6}\right]+k\_{pt6-pk6}∙\left[PleC\_{pt6}\right] $$ | 26 |
| $$\frac{d\left[PleC\_{pt5}\right]}{dt} = k\_{pk5-pt5}∙\left[PleC\_{kin5}\right]-k\_{pt5-pk5}∙\left[PleC\_{pt5}\right] + k\_{pk1h-pt5}∙\left[PleC\_{kin1h}\right]∙\left[PleD\~P\right]- k\_{pt5-pk1h}∙\left[PleC\_{pt5}\right] $$ | 27 |
| $$\frac{d\left[PleC\_{pt6}\right]}{dt} = k\_{pk6-pt6}∙\left[PleC\_{kin6}\right]-k\_{pt6-pk6}∙\left[PleC\_{pt6}\right]+ k\_{pk3h-pt6}∙\left[PleC\_{kin3h}\right]∙\left[PleD\~P\right]- k\_{pt6-pk3h}∙\left[PleC\_{pt6}\right]$$ | 28 |
| $$\frac{d\left[Phos\right]}{dt} =- k\_{phos-ph3}∙\left[Phos\right]∙\left[PleD\~P\right]+ k\_{ph3-phos}∙\left[Phos:PleD\~P\right] +k\_{e-ph3}∙\left[Phos:PleD\~P\right]$$ | 29 |
| $$\frac{d\left[Phos:PleD\~P\right]}{dt} =k\_{phos-ph3}∙\left[Phos\right]∙\left[PleD\~P\right]- k\_{ph3-phos}∙\left[Phos:PleD\~P\right]-k\_{e-ph3}∙\left[Phos:PleD\~P\right]$$ | 30 |
| $$\frac{d\left[DivL\right]}{dt} = k\_{syndl}-k\_{degdl}∙[DivL]-k\_{dl-dldk}∙\left[DivL\right]∙\left[DivK\~P\right]+ k\_{dldk-dl}∙\left[DivL:DivK\~P\right]$$ | 31 |
| $$\frac{d\left[DivL:DivK\~P\right]}{dt} = k\_{dl-dldk}∙\left[DivL\right]∙\left[DivK\~P\right]- k\_{dldk-dl}∙\left[DivL:DivK\~P\right]$$ | 32 |
| $$\frac{d\left[CtrA\right]}{dt} = k\_{syn-ctr}- k\_{deg-ctr}∙\left[CtrA\right]- k\_{ck-ck1}∙\left[CckA\_{kin}\right]∙\left[CtrA\right]+k\_{ck1-ck}∙\left[CckA\_{kin1}\right] +k\_{e-ch1}∙\left[CckA\_{h1}\right]$$ | 33 |
| $$\frac{d\left[CtrA\~P\right]}{dt} = - k\_{deg-ctr}∙\left[CtrA\~P\right]+ k\_{ct1-ck}∙\left[CckA\_{ct1}\right]-k\_{ck-ct1}∙\left[CckA\_{kin}\right]∙\left[CtrA\~P\right] -k\_{cp-ch1}∙\left[CckA\_{phos}\right]∙\left[CtrA\~P\right]+k\_{ch1-cp}∙\left[CckA\_{h1}\right]$$ | 34 |
| $$\frac{d\left[CpdR\right]}{dt} = k\_{syn-cpd}- k\_{deg-cpd}∙\left[CpdR\right]- k\_{ck-ck2}∙\left[CckA\_{kin}\right]∙\left[CpdR\right]+ k\_{ck2-ck}∙\left[CckA\_{kin2}\right] +k\_{e-ch2}∙\left[CckA\_{h2}\right]$$ | 35 |
| $$\frac{d\left[CpdR\~P\right]}{dt} = - k\_{deg-cpd}∙\left[CpdR\~P\right]+ k\_{ct2-ck}∙\left[CckA\_{ct1}\right]-k\_{ck-ct2}∙\left[CckA\_{kin}\right]∙\left[CpdR\~P\right] -k\_{cp-ch2}∙\left[CckA\_{phos}\right]∙\left[CpdR\~P\right]+k\_{ch2-cp}∙\left[CckA\_{h2}\right]$$ | 36 |
| $$\frac{d\left[CckA\_{phos}\right]}{dt} = -k\_{cp-ch1}∙\left[CckA\_{phos}\right]∙\left[CtrA\~P\right]+k\_{ch1-cp}∙\left[CckA\_{h1}\right] –k\_{cp-ch2}∙\left[CckA\_{phos}\right]∙\left[CpdR\~P\right]+k\_{ch2-cp}∙\left[CckA\_{h2}\right] -k\_{cp-ck}∙\left[CckA\_{phos}\right]∙\frac{\left[DivL\right]^{2}}{K\_{dl }^{2}+ \left[DivL\right]^{2}} +k\_{ck-cp}∙\left[CckA\_{kin}\right]+k\_{e-ch1}∙\left[CckA\_{h1}\right]+k\_{e-ch2}∙\left[CckA\_{h2}\right]$$ | 37 |
| $$\frac{d\left[CckA\_{kin}\right]}{dt} = k\_{cp-ck}∙\left[CckA\_{phos}\right]∙\frac{\left[DivL\right]^{2}}{K\_{dl }^{2} + \left[DivL\right]^{2}}-k\_{ck-cp}∙\left[CckA\_{kin}\right] - k\_{ck-ck1}∙\left[CckA\_{kin}\right]∙\left[CtrA\right]+k\_{ck1-ck}∙\left[CckA\_{kin1}\right]- k\_{ck-ck2}∙\left[CckA\_{kin}\right]∙\left[CpdR\right]+k\_{ck2-ck}∙\left[CckA\_{kin2}\right]+ k\_{ct1-ck}∙\left[CckA\_{ct1}\right]-k\_{ck-ct1}∙\left[CckA\_{kin}\right]∙\left[CtrA\~P\right] + k\_{ct2-ck}∙\left[CckA\_{ct2}\right]-k\_{ck-ct2}∙\left[CckA\_{kin}\right]∙\left[CpdR\~P\right]$$ | 38 |
| $$\frac{d\left[CckA\_{kin1}\right]}{dt} = k\_{ck-ck1}∙\left[CckA\_{kin}\right]∙\left[CtrA\right]-k\_{ck1-ck}∙\left[CckA\_{kin1}\right] - k\_{ck1-ct1}∙\left[CckA\_{kin1}\right]+k\_{ct1-ck1}∙\left[CckA\_{ct1}\right]$$ | 39 |
| $$\frac{d\left[CckA\_{kin2}\right]}{dt} = k\_{ck-ck2}∙\left[CckA\_{kin}\right]∙\left[CpdR\right]-k\_{ck2-ck}∙\left[CckA\_{kin2}\right] - k\_{ck2-ct2}∙\left[CckA\_{kin2}\right]+k\_{ct2-ck2}∙\left[CckA\_{ct2}\right]$$ | 40 |
| $$\frac{d\left[CckA\_{ct1}\right]}{dt} =k\_{ck1-ct1}∙\left[CckA\_{kin1}\right]-k\_{ct1-ck1}∙\left[CckA\_{ct1}\right]- k\_{ct1-ck}∙\left[CckA\_{ct1}\right]+k\_{ck-ct1}∙\left[CckA\_{kin}\right]∙\left[CtrA\~P\right]$$ | 41 |
| $$\frac{d\left[CckA\_{ct2}\right]}{dt} = k\_{ck2-ct2}∙\left[CckA\_{kin2}\right]-k\_{ct2-ck2}∙\left[CckA\_{ct2}\right]- k\_{ct2-ck}∙\left[CckA\_{ct2}\right]+k\_{ck-ct2}∙\left[CckA\_{kin}\right]∙\left[CpdR\~P\right]$$ | 42 |
| $$\frac{d\left[CckA\_{h1}\right]}{dt} = k\_{cp-ch1}∙\left[CckA\_{phos}\right]∙\left[CtrA\~P\right]-k\_{ch1-cp}∙\left[CckA\_{h1}\right]-k\_{e-ch1}∙\left[CckA\_{h1}\right]$$ | 43 |
| $$\frac{d\left[CckA\_{h2}\right]}{dt} = k\_{cp-ch2}∙\left[CckA\_{phos}\right]∙\left[CpdR\~P\right]-k\_{ch2-cp}∙\left[CckA\_{h2}\right]-k\_{e-ch2}∙\left[CckA\_{h2}\right]$$ | 44 |