March 9th

Modeling

Reaction: $A + 2B \xrightarrow{k_1} 3C + D$

$D + C \underset{k_3}{\overset{k_2}{\rightleftharpoons}} F$

part one

b/c reactant is taken up — b/c 2B

$$\frac{d[A]}{dt} = v_{1,A} = -k_1[A][B]^2$$

↑ the speed of component 1 with respect to A

$$v_{1,B} = -2k_1[A][B]^2$$

$$v_{1,C} = 3k_1[A][B]^2$$

$$v_{1,D} = k_1[A][B]^2$$

part one

part two

$$v_{2,C} = -k_2[C][D]$$

$$v_{2,D} = -k_2[C][D]$$

$$v_{2,F} = -k_2[C][D]$$

* the compositor takes in all these parts

part three

$$v_{3,C} = k_3[F]$$

$$v_{3,D} = k_3[F]$$

$$v_{3,F} = -k_3[F]$$

constants for next model

$k = 10^{-6}$ degredation ≈ ehh...

$n = 2$

transcription ≈ 0.5/s

DNA tot ≈ 10^{-6}

time span ≈ hrs