

## Assignment 2: Figures and tables

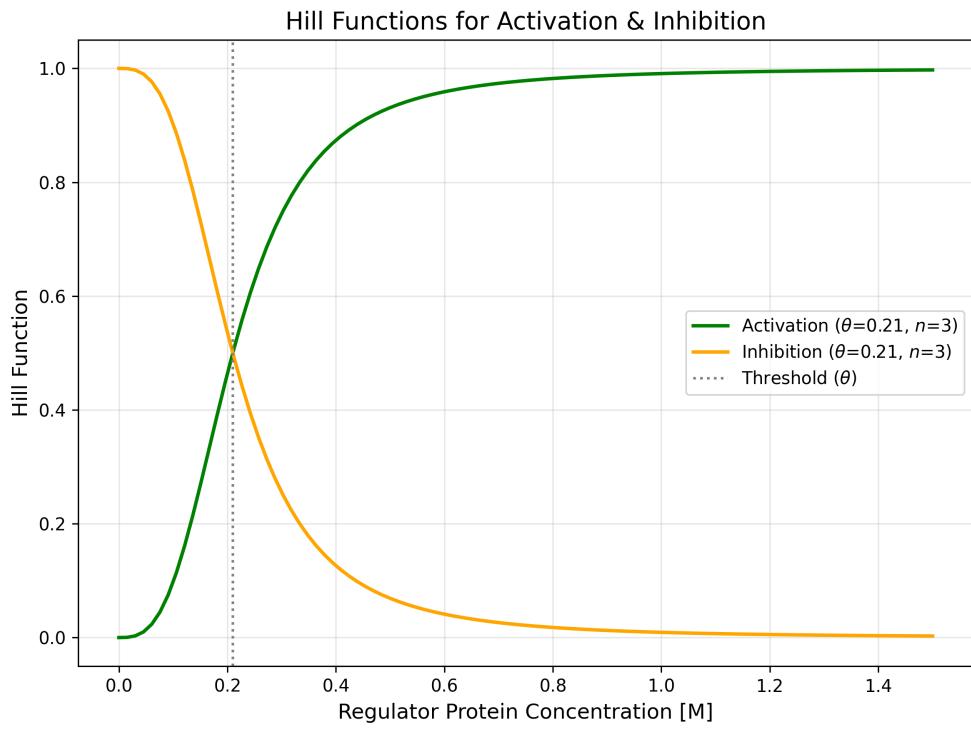
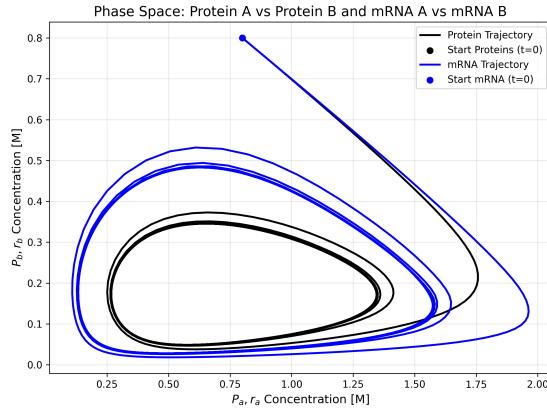
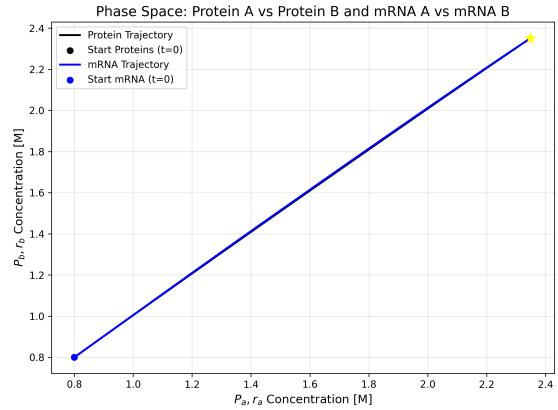


Figure 1: Activation and Inhibition Hill Functions

Stream plot with equilibrium point and nullclines for interaction between metabolite R, and growth-promoting enzyme E

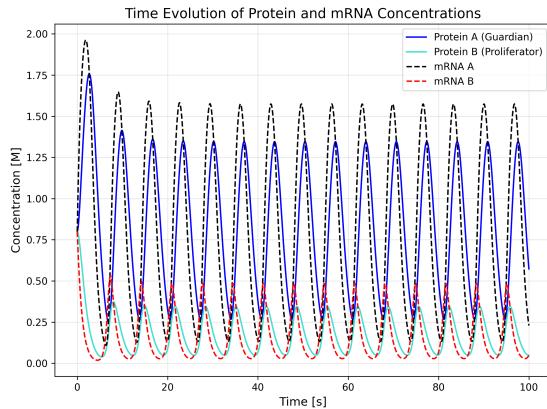


(a) Healthy State

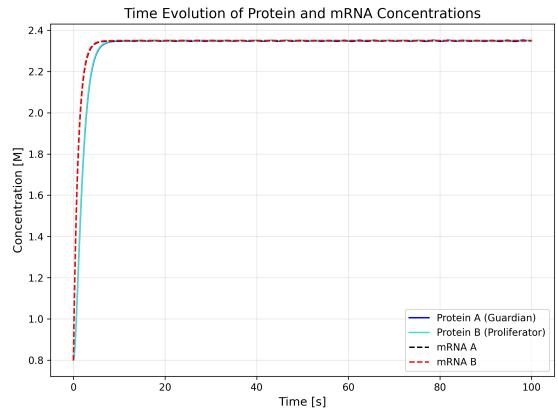


### (b) Hijacked State

Figure 2: Phase Portrait of Proteins and mRNAs concentrations for Patient Alpha

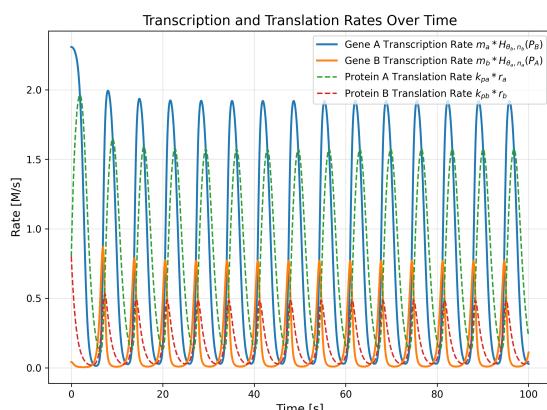


(a) Healthy State

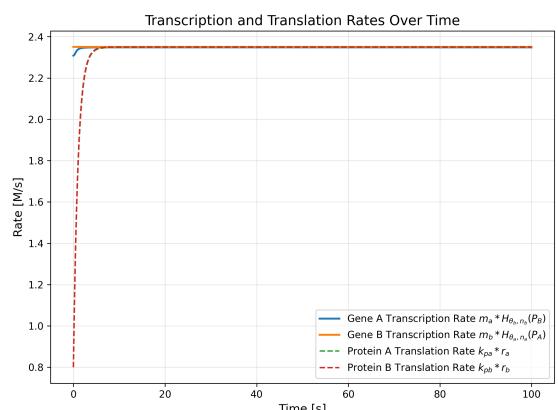


### (b) Hijacked State

Figure 3: Concentration of Proteins and mRNAs overtime for Patient Alpha



(a) Healthy State



### (b) Hijacked State

Figure 4: Translation and Transcription Rates overtime for Patient Alpha

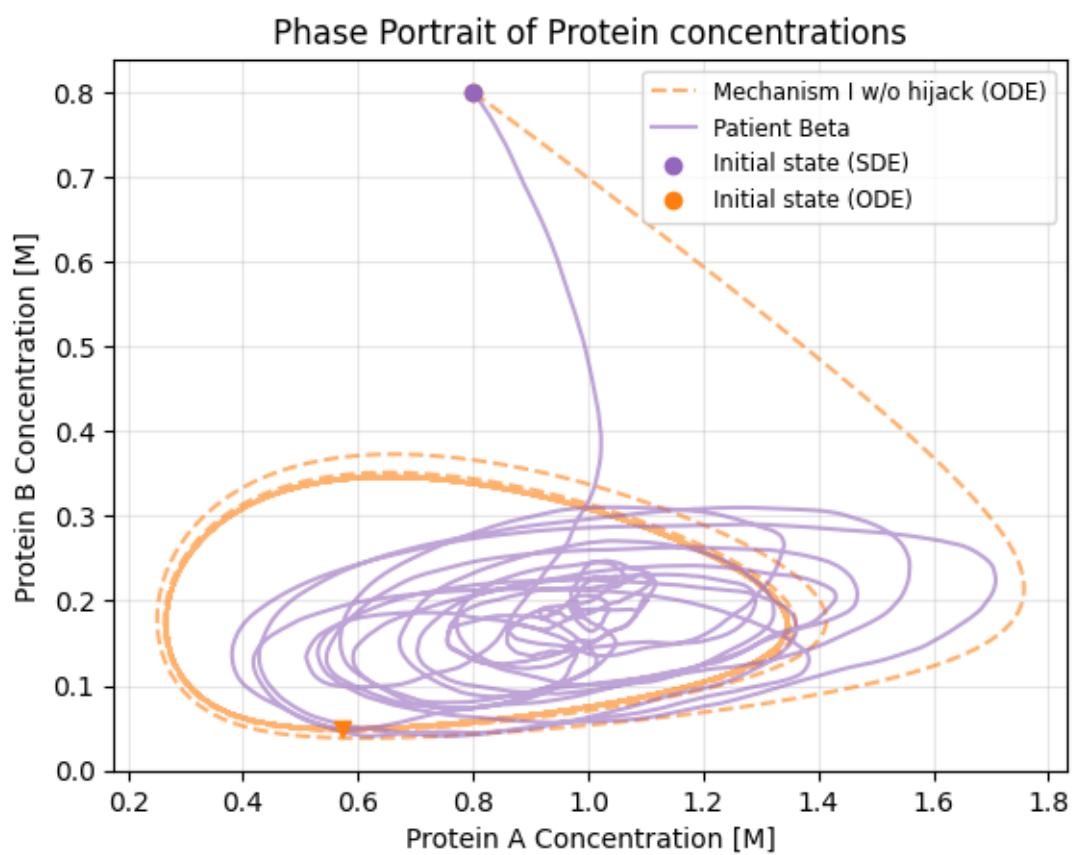


Figure 5: Phase Portrait of the Protein concentrations of Patient Beta

Concentration of (un)spliced RNA and protein over time ( $n = 10$ )

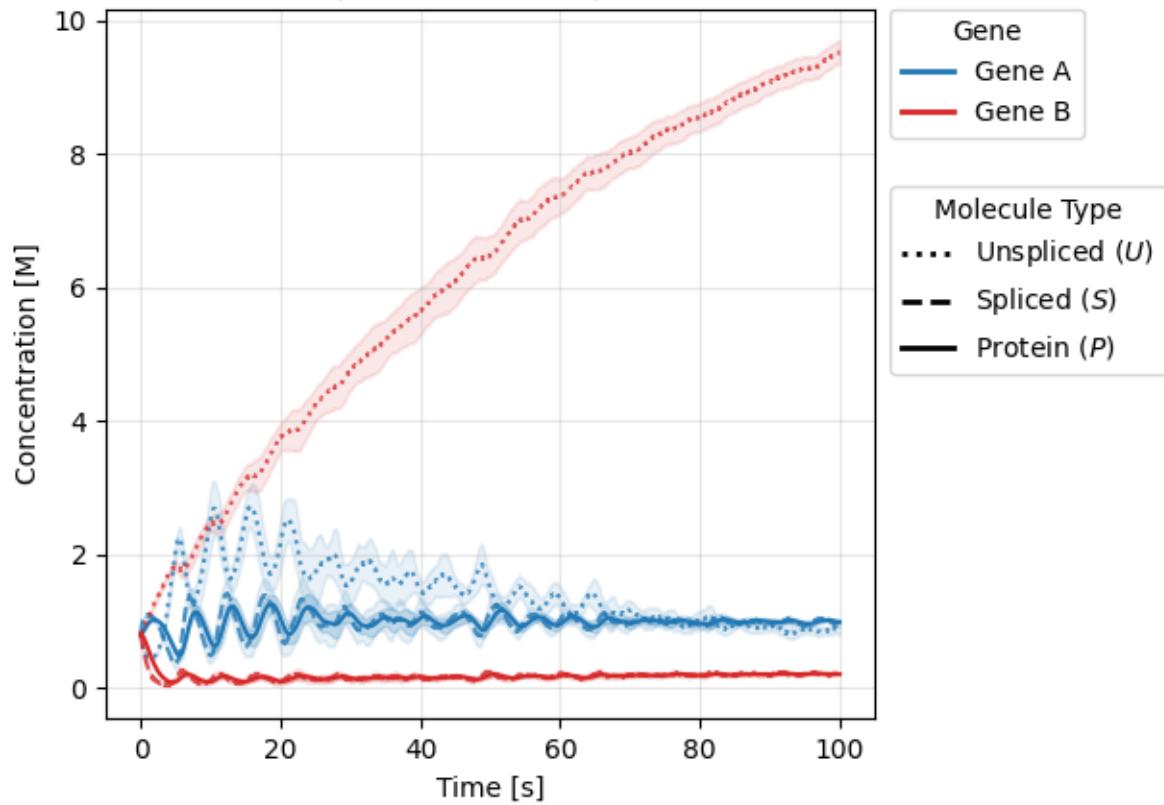


Figure 6: Comparison of the (average) concentration of protein over time from ODE versus 10 SDEVelo simulations with 95% confidence interval