

Germinal Center B Cells Lab Journal

Jake Looney

Undergrad at the University of Tennessee Knoxville

October, 2022

Contents

1 October 3rd, 2022

* Began by creating jupyter notebook for replicating model (boy howdy is installing jupyter annoying)

Created a basic model using the equations described and solved it with the Euler method.

Lots of stackoverflowing and wikipediaing.

Using some of the fits sent to me could not replicate results (often with solutions that are wildly different)

Need more time working on this a figuring out fits. Spent about 4 hours today

2 October 4th, 2022

* Worked more with toying around w/ fits and trying to figure out what works best.

Some of the fits given really make no sense at all. E.g, μ of 10 million makes the model diverge to infinity. $\beta \approx 1$ makes no sense

Added scatter plot to help visualize data

Need to make some way of fitting variables (figure out how gradient descent works again).

Spent about 1.5 hours