OCE_iGEM_Modeling

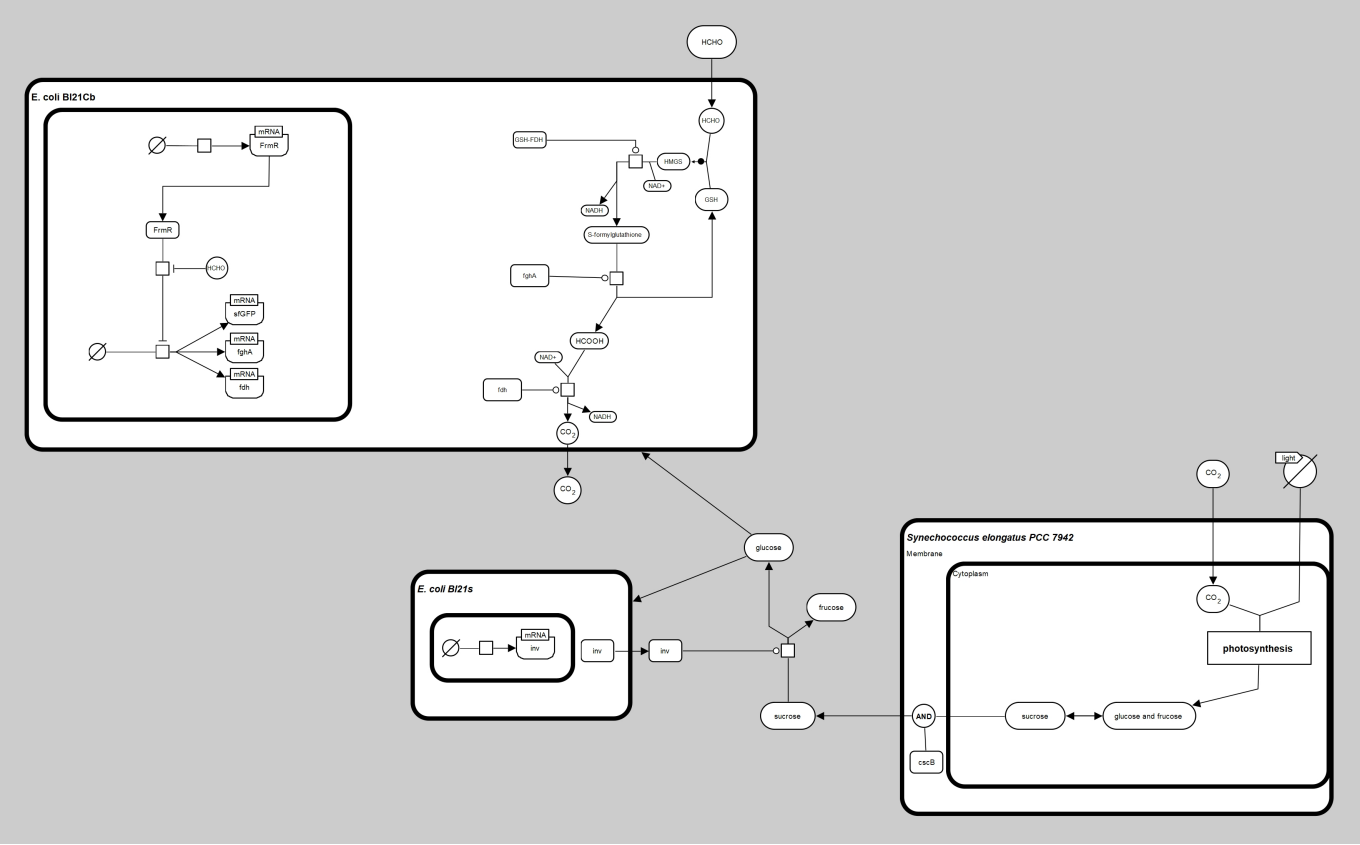
0. Introduction

About the repository

0. Refer to iGEM's description of *Best Model Prize* in iGEM to have a general impression.
1. The repository is NOT cleaned up yet, since the time is swallowed by other courses. Sorry for that.
2. Refer to Model part of our team wiki for final detailed version of the project.
3. We may only introduce some key part lost in wiki here.

About the pathway illustration

We follows a standard named Systems Biology Graphical Notation(SBGN) to draw the pathway illustration.



About the data

Yes, all data are open-sourced. Check the "./RawData" directory.

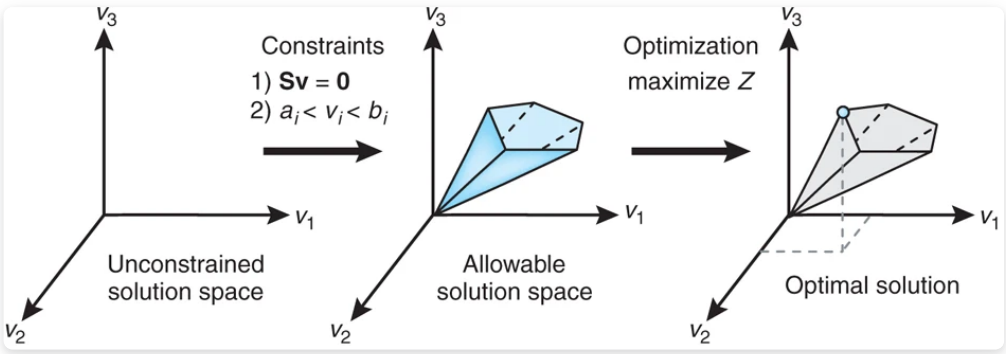
About questions

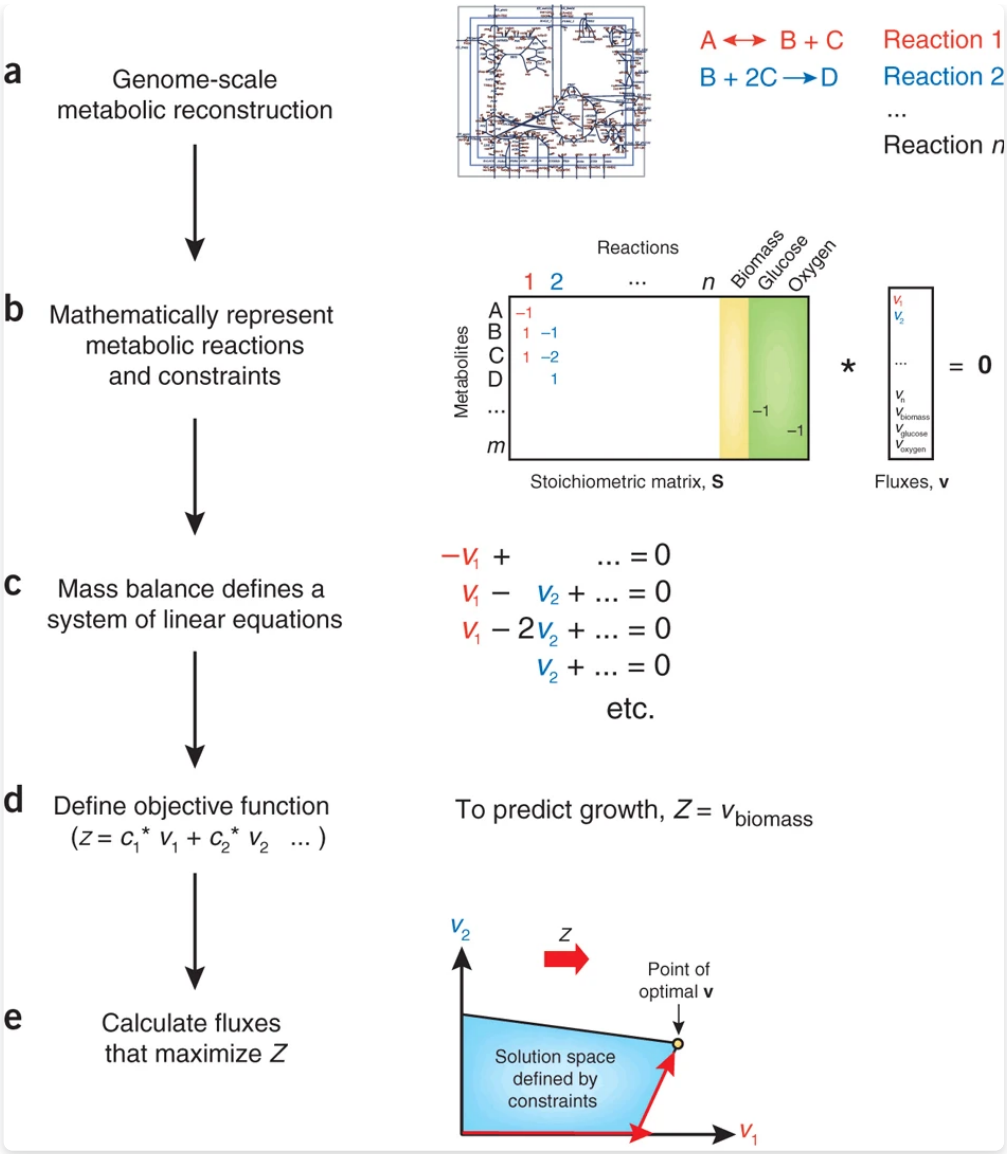
If you have any questions about our project, you may **open an issue** and illustrate your question in detail. I am not really familiar with all the math behind the method, so do not expect too much on this. I can find some sources referred to maybe.

1. FBA (Flux Balance Analysis)

When considering the analysis of metabolites flows on a metabolic network, FBA is a common and useful mathematics tool. Basically, FBA is trying to solve a **constraint-based optimization problem**.

You can refer to this paper, which introduces the definition of FBA and the mathematics behind it, especially the Figure 1 and Figure 2 which are posted here.





Some suggestions

Cite everything

If you use any tool, conclusion, data that are not originated from you, cite it in correct format, APA 7th for example.

Talk to others in group

Make sure everyone is actively engaged in the project and know what are others doing, which will prevent work on the same thing or something is missing due to lack of communication.

Talk to other groups

This is very important and easy to forget. One of the requirements of best model in iGEM is about the special contributions of model to the whole project.

What's more, communicate with other groups may help them strengthen the relation of their work with yours.

Reference

Orth, J., Thiele, I. & Palsson, B. What is flux balance analysis?. Nat Biotechnol 28, 245–248 (2010). https://doi.org/10.1038/nbt.1614