

Filename	Description
run.jl	<p><b>Main Run file.</b> This includes calculations and commands to retrieve and <i>update</i> flux array, objective function, and run the function <code>calculate_optimal_flux_distribution</code>. Output of this file gives the required flux values.</p> <p>Note that it also retrieves the stoichiometric matrix, species bounds array from the <code>data_dictionary.jl</code> file and creates local variables for the parameters to be used with the function <code>calculate_optimal_flux_distribution</code>.</p>
data_dictionary.jl	Julia dictionary file that contains the list of metabolites, stoichiometric matrix, <i>default</i> flux bounds array for each reaction, species balance array, objective function array (set as 0 for all in this file).
calculate_optimal_flux_distribution.jl	Function provided by Dr. Varner
Atom_balance.jl	Code to check if elements are balanced.
Pathway_NEW.pdf	Schematic of reaction system. Includes reactions and exchange fluxes,
Enzyme Km.pdf	Enzyme Km values based on Park et al. paper
List_of_Reactions_and_Metabolites.txt	Contains ordered list of intracellular and exchange reactions, and the list of metabolites.

### **Part a**

data\_dictionary.jl file has the stoichiometric matrix

### **Part b**

Atom\_balance.jl has the atomic balance calculations and the elemental array.

### **Part c**

run.jl file has the results tuple.