Tutorial #X: Preminary Report

Barry Linkletter

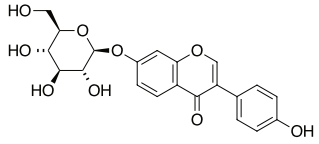
This is the final report produced by your unfortunate predecessor. It describes the enzyme assays for wild-type β-*galactosidase* with PNP-β-D-Gal. Please use this report to develop your own method for analyzing the remaining data that still needs to be analyzed. Then you may have cake.

This document was produced using the LaTeX typesetting language with the Tufte-handout document class. Images of proteins were created using *UCSF Chimera*. Chemical diagrams were made with *ChemDoodle* and further edited with *Affinity Designer*.

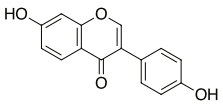
Part 1: Introduction

This report describes the data analysis for the enzyme assay used to evaluate mutated β-*galactosidase* enzymes. First we must determine and enzyme concentration that will give reaction rates that are fast enough to be easily followed but no too fast where we cannot collect enough data to determine an initial rate.

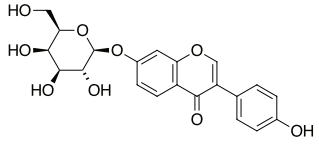
Figure 1: The natural products daidzin and daidzein compared to our synthetic target, 7-(β-D-Galactopyranosyloxy)-4'-hydroxyisoflavone



Daidzin



Daidzein



7-(β-D-Galactopyranosyloxy)-4′-hydroxyisoflavone

The Plate Plan

We will evaluate three different concentrations of enzyme. The plate will be set up with eight rows of differing substrate concentration in 0.100 M phosphate buffer. Three rows will contain no enzyme, three will have an enzyme concentration