Results

Invertase hydrolyzed both raffinose and melezitose. *Michaelis-Menton* kinetic data is shown below. All substrates were tested on the same day using the same batch of invertase and other reagents so comparisons could be made without regard to differences in preparation.

Substrate	K_m	V_{max}
Sucrose	34.9 mM	0.209 mMol/min
Raffinose	223. mM	0.383 mMol/min
Melezitose	327. mM	0.105 mMol/min

Activity results are shown in the *Lineweaver-Burk* plot, *Figure 2*.

Detection of hydrolysis of a reducing sugar into two component reducing sugars was successful. With lactose and lactase, a 1.2 μMol amount of lactose in 4 mL of total solution had an absorbance of 0.535 A, and similar samples allowed to react with lactase had an average absorbance of 0.676 A.

This same method was used to verify that maltose and cellobiose were not hydrolyzed with invertase. A maltose-only sample had absorbance 0.514 A, while samples with added invertase had an average absorbance of 0.495 A. A cellobiose-

only sample had absorbance 0.496 A, while samples with added invertase had an average absorbance of 0.462 A.

Inhibition results are shown in the *Lineweaver-Burk* plot, in *Figure 3*.

Michaelis-Menton kinetic data is shown below. The same batch of reagents was used for all tests.

Substrate	K_m	V_{max}
Sucrose Only	19.0 mM	0.0809 mMol/min
Sucrose + Fructose	10.6 mM	0.0416 mMol/min
Sucrose + Sucralose	16.2 mM	0.0722 mMol/min

A set of tests revealed that sucralose is not hydrolyzed by invertase, despite its close structural resemblance to sucrose. However, unlike sucrose, sucralose was found to be able to reduce 3,5-DNS as reducing sugars are able to do.

We attempted to further characterize the enzyme with SDS-PAGE in order to determine the size of the enzyme, and also with agarose gel electrophoresis in order to determine the pI of the enzyme. Neither type of gel was working well enough to provide conclusive results. Nevertheless, they are seen in *Figure 5* and *Figure 6*.