CONVERSION OF GLUCOSE TO FRUCTOSE

NOTE: This experiment requires the tasting of products therefore human grade materials and uncontaminated equipment need to be used.

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Purpose: To show how enzymes derived from microorganisms can be used to convert sugars, i.e. from a low sweet glucose to a high sweet fructose.

Materials: Glucose/Dextrose Solution (8%)
Glucose Isomerase
Water Bath
Glucose Test Strips
Magnesium Sulfate or Magnesium Chloride (5 mg)

Procedures:

Before starting, taste the glucose solution for level of sweetness and using glucose test strips measure the glucose content.

1. Place 100 mL of the glucose solution into a 250 mL beaker.
2. Add magnesium salt.
3. Add ¼ tsp. (1g) of the enzyme.
4. Place into a 60^{o}C water bath; stir occasionally.
5. At 20 min., test for level of remaining glucose using test strips; repeat every 20 min for 1 hour.
6. When done taste the final solution for level of sweetness.