

Introduction to Carbohydrates

Results and Discussion

Data Table

Sample	Iodine Test		Benedict's Test		Barfoed's Test		Seliwanoff Test		Identity
	Color	+/-	Color	+/-	Color	+/-	Color	+/-	
Blank									Distilled water
A									
B									
C									
D									
E									

Post-Lab Questions

1. Maltose, a product of partial digestion of starches, is a disaccharide composed of two glucose units. It is a reducing sugar. In your mind, take maltose through the sequence of classification tests used in this experiment. Would you be able to distinguish maltose from lactose in an unknown sample?
2. When disaccharides are heated in water in the presence of a strong acid, the linkage joining the two monosaccharide components is "broken" (a reaction called hydrolysis). Using this information, explain why sucrose might give a false positive result with the Seliwanoff reagent.
3. Prior to the advent of more accurate test-strip methods to analyze the amount of glucose in urine (a test for diabetes), the presence of glucose in urine was routinely detected using Clinitest™ tablets. These tablets contain all of the solid reagents needed for Benedict's Test. Do you think this is a good method of testing for glucose?
4. In the Background Section, it was stated that fructose is used as a "lower calorie and lower cost sweetener than table sugar." Explain how and why this statement might be true.