Name: _____ Section: _____

Data and Calculations for Experiment 15

Reducing or Nonreducing Carbohydrates

Test Tube No.	*Substance*	*Color Observation*	*Reducing or Nonreducing Carbohydrates*
1	Glucose		
2	Fructose		
3	Sucrose		
4	Lactose		
5	Starch		

Hydrolysis of Carbohydrates

Hydrolysis of Sucrose (Acid versus Base Catalysis)

Sample	*Condition of Hydrolysis*	*Color Observation*	*Fehling's Test (positive or negative)*
1	Acidic (H_2SO_4)		
2	Basic (NaOH)		

Acid-Catalyzed Hydrolysis of Starch

Sample	*Heating Time (min)*	*Color Observation*	*Iodine Test (positive or negative)*
1	5		
2	10		
3	15		
4	20		
5	25		
6	30		

Name: _____ Section: _____

Questions

1. How does the iodine test distinguish between amylose and amylopectin?

2. Why is sucrose a nonreducing sugar? Identify the glycosidic linkage present.

3. How can you tell when the hydrolysis of starch is complete? Why does the test work this way? What is the monosaccharide that results at the end?

4. Why does amylose give a negative test with Fehling's solution?

5. In your own words, write a logical, coherent conclusion on the back of this page which demonstrates a thorough working knowledge and understanding of important concepts and underlying chemical principles pertinent to this experiment, forms appropriate conclusions based on interpretations of results, includes applications of and improvements in the experiment, and demonstrates accountability by providing justification for any errors. If additional space is needed, please use additional paper. (For additional guidelines on writing this conclusion, please refer to the **Moorpark College Chemistry Department Laboratory Report Rubric** found in the lab manual and department website.)