

Name _____

Section _____

The Chemistry of Carbohydrates

Experiment #7

Data & Report Sheet

Observations for Parts A thru E.

Unknown number _____

| Carbo- hydrate | Benedict Test | Barfoed Test | Seliwanoff Test | Bial Test | Iodine Test |
|-------------------|------------------|-----------------|--------------------|--------------|----------------|
| Glucose | | | | | |
| Fructose | | | | | |
| Xylose | | | | | |
| Lactose | | | | | |
| Sucrose | | | | | |
| Starch | | | | | |
| Unknown # | | | | | |
| Water | | | | | |

A-1. What conclusions can you make regarding your unknown after the test with Benedict's reagent? Is your unknown a reducing sugar?

B-1. What conclusions can you make about your unknown after the test with Barfoed's reagent? Is your unknown a monosaccharide? An aldose?

C-1. What conclusions can you make about your unknown after the test with Seliwanoff's reagent? How does the final color of your unknown in the Seliwanoff test support your conclusion?

D-1. What conclusions can you draw about your unknown after the test with Bial's reagent? How does the color of your unknown in the Bial test support your conclusion?

E-1. What conclusions can you make about your unknown after the test with the Iodine reagent?

Summarize your conclusions. What is the identity of your unknown (aldose or ketose; pentose or hexose; monosaccharide, disaccharide or starch)?

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Part F. Observations. Indicate whether each test was positive or negative and indicate what color each solution was after performing the tests.

| Starch mixture | Benedict's Test | Iodine Test |
|-----------------|-----------------|-------------|
| Starch/Solution | S1 | S2 |
| Starch/Buffer | B1 | B2 |

F-1. Describe what caused the observed results in the Benedict's Test for starch/saliva vs. starch/buffer mixtures.

F-2. Describe what caused the observed results in the iodine test for the starch/saliva vs. starch/buffer mixtures.

F-3. What conclusions can you make regarding the action of saliva on starch?

F-4. What enzyme is involved? You may want to consult the text book for this.

F-5. What is (are) the product(s) of the reaction of starch with this enzyme?