|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nutrient | positive | negative | Unknown result | indicator |
| starch |  |  |  |  |
| glucose |  |  |  |  |
| protein |  |  |  |  |
| lipid |  |  |  |  |

**NUTRIENT ID LAB**

**Background: By performing different qualitative tests it is possible to determine the presence or absence of various chemicals. During this lab you will use four different indicators to determine the identity of an unknown substance.**

**Objective: Test samples for the presence of 3 different organic molecules.**

**Procedure:**

1. **Label 6, 50 ml beakers S (starch), G (glucose), P (protein) W (water) L (lipids) U (unkown). Marking pen**
2. **Label 3 test tubes +, -, U**
3. **Follow the individual procedures for each of the organics.**

**Equipment:**

 **Per partner: 6 50 ml beakers, 3 test tubes, & goggles**

 **Per bench: water bath, hot plates, reagents.**

**\*Safety concerns Use of reagents and hot plates require use of goggles in lab area**

**Data Table:**

**Starch Test**

1. Add 40 drops of starch solution into the + test tube.

2. Add 40 drops of water solution into the - test tube

3. Add 40 drops of unknown solution into the U test tube.

4. Add 2 drops of Lugols Iodine to each test tube.

5. Record observations.

**Glucose Test.**

1. Add 40 drops of glucose solution into the + test tube.

2. Add 40 drops of water solution into the - test tube

3. Add 40 drops of unknown solution into the U test tube.

4. Add 10 drops of Benedict’s Solution to each test tube.

Place all 3 test tubes into hot water bath for 5 minutes

5. Record observations.

**Protein test**

1. Add 40 drops of protein solution into the + test tube.

2. Add 40 drops of water solution into the - test tube

3. Add 40 drops of unknown solution into the U test tube.

4. Add 2 drops of Biuret to each test tube.

5. Record observations.

**Lipid test**

1. Add 40 drops of lipid solution into the + test tube.

2. Add 40 drops of water solution into the - test tube

3. Add 40 drops of unknown solution into the U test tube.

4. Add 2 drops of Sudan III to each test tube.

5. Record observations.

**Write a CER based on the types of macromolecules present in the unknown solution, based on your results.**