**C1151 Empirical Formula Report**  Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of Exp. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lab Section \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
|  |  | Mass (g) |
| Before Heating | 125 mL Flask |  |
| 250 mL Beaker |  |
| 125 mL Flask & Zn |  |
| 125 mL Flask & Zn & I2 |  |
|  |  |
| Initial Zn mass |  |
| Initial I2 mass |  |
|  |  |
|  |  |  |
| After Heating | 125 mL Flask & Zn |  |
| 150 mL Beaker + product |  |
|  |  |
| Product mass |  |
| Excess Zn mass |  |
|  |  |
| Mass of I2 Consumed |  |
| Mass of Zn Consumed |  |
|  |  |  |
|  |  |  |
| Calculated Product Values | moles Zn |  |
| moles I |  |
|  |  |
| Empirical Formula  (4 significant figures\*) |  |
|  |  |
| Empirical Formula  (single digit subscripts ) |  |
|  |  |  |
|  |  |  |

## 

## 

Answer (Type) answers to the following questions:

1. Why is the exact amount of methanol used in this experiment not important?
2. What is responsible for the color of the solution before you begin heating?

1. What is the purpose of rinsing the Zn(s) with methanol several times once the reaction is complete?
2. I2 is the limiting reactant in this experiment. Give two experimental **observations** that support this fact.  
   (An observation in this case is something you SEE.)
3. List three possible molecular formulae for the empirical formula C3O5H10.  
     
     
     
     
   If the molar mass of the compound is approximately 126 g/mol, what is the molecular formula?

1. A compound is known to be 72.6% carbon, 8.1% hydrogen and the remainder oxygen. What is the compound’s empirical formula?   
     
    For this problem, you can handwrite your solution, photograph it and Insert it into this document.   
    This is a very useful technique that will come in handy in the future.