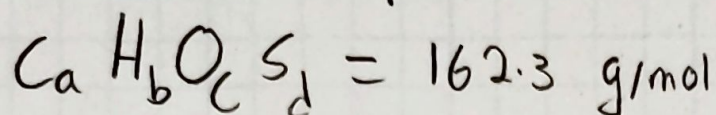
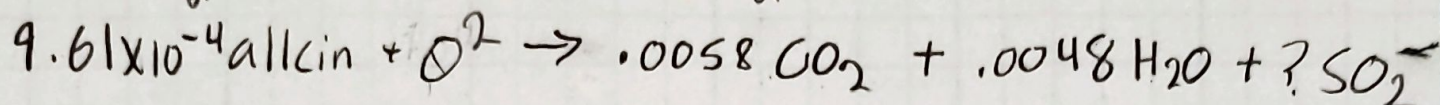
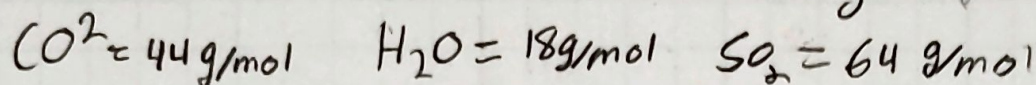


Problem 1:



Experiment 3 analysis:  $.156 \text{ grams} \times \frac{1 \text{ mole}}{162.3 \text{ g}} = 9.61 \times 10^{-4} \text{ moles of allcin}$



$.156 \text{ grams} : .60 = .0936 \text{ grams non sulfur}$

$.254 \text{ g CO}_2 \cdot .27 = .0693 \text{ grams of Carbon}$   
 $.0865 \text{ g H}_2\text{O} \cdot \frac{1}{9} = .0096 \text{ grams of H}$

$.0624 \text{ grams of Sulfur}$   
 $.0147 \text{ grams O}$

Experiment 4 analysis

$$\frac{.254 \text{ grams of Allcin}}{162.3 \text{ g/mol}} = .00157 \text{ moles}$$

There is  $.100 \text{ grams}$  of sulfur in  $.254 \text{ g}$  of Allcin making it 40% Sulfur

Grams to mole conversion

$$.0693 / 12.0107 = .0058 \text{ moles of carbon}$$

$$.0096 / 1.00784 = .00953 \text{ moles of hydrogen}$$

$$.0624 / 32.065 = .001946 \text{ moles of sulfur}$$

$$.0147 / 16 = 9.19 \times 10^{-4} \text{ moles of oxygen}$$

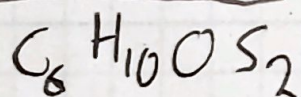
mole Fraction conversion

$$.0058 / 9.19 \times 10^{-4} = \boxed{6.311}$$

$$.00953 / 9.19 \times 10^{-4} = \boxed{10.38}$$

$$.001946 / 9.19 \times 10^{-4} = \boxed{2.12}$$

$\boxed{1}$  rounding errors



Chemical formula  
Formula

As well as the Empirical