**Mini-quiz #15 Chemistry 1114 Friday 11 October 2013**

 **6 pts**

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A**

1. Circle the compound formulas below that are not empiric formulas:

**CHO C2H4O4 N21F7O3 H4S2O16**

1. Compound **A** 21.82 % C, 72.72% O and 5.45 % H by weight. Given that the atomic masses of C=12 g/mol, O=16 g/mol and H= 1 g/mol, determine the empiric formula for compound **A**.

Element mass at. Wt n=mass/at. wt n/nmin X2

 C 21.82 g 12 g/mol 21.82/12=1.818 1 2

 O 72.72 16 72.72/16=4.545 2.5 5

 H 5.45 1 5.45/1= 5.45 3 6

 EMPIRIC FORMULA OF COMPOUND A =\_\_\_C2O5H6\_\_\_\_\_\_\_\_\_

 (weight/mol = 110 g/mol)

1. The molecular weight of compound **A** above is 550 g/mol. What is the molecular formula for compound **A** ?

550/110=5 => C10O25H30

MOLECULAR FORMULA OF COMPOUND A =\_\_\_ C10O25H30\_\_\_\_\_\_\_\_\_

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**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B**

1. Circle the compound formulas below that are not empiric formulas:

**C2 H2 O4 C2HO N21F7O3 H4S2O16**

1. Compound **B** contains **31.17** % C, 62.33 % O and 6.493 % H by weight. Given that the atomic masses of C=12 g/mol, O=16 g/mol and H= 1 g/mol, determine the empiric formula for compound **B**.

 Element mass at. Wt n=mass/at. wt n/nmin X2

 C 31.17 g 12 g/mol 31.17/12=2.597 1 2

 O 62.33 16 62.33/16=3.895 1.5 3

 H 6.49 1 6.49/1= 6.49 2.5 5

EMPIRIC FORMULA OF COMPOUND B =\_\_C2O3H5\_\_\_\_\_\_\_\_\_\_

 Weight/mol = 77

1. The molecular weight of compound **B** above is 385 g/mol. What is the molecular formula for compound **B**?

385/77=5=> C10O15H25

MOLECULAR FORMULA OF COMPOUND B =\_\_ C10O15H25\_\_\_\_\_\_\_\_\_\_