**Mini-quiz #16 Chemistry 1114 Friday 18 October 2013**

**7 pts**

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

A sample of CxHy is burned in pure O2 to form 13.00 grams of CO2 and 6.6477 grams of H2O. Given that the molecular weight of CO2 =44 g/mol and the molecular weight of H2O=18 g/mol, determine the empiric formula for the CxHy sample (3 pts)

Mol CO2 = 13/44=0.2954 mols CO2 = mol C

Mol H2O = 6.6477/18=0.3693 = ½ mol H=> mol H= 2\*0.369=0.7385

**CxHy = C0.2954H0.7385 = C1H0.739/0.295 =C1H2.5 = C2H5**

C2H5

**CxHy=**

Balance me ! (1 pt for each correct coefficient):

\_\_2\_\_C4H10 + \_\_13\_\_ O2 🡪 \_8\_\_CO2 + \_10\_\_H2O

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

A sample of CxHy is burned in pure O2 to form 6.500 grams of CO2 and 3.989 grams of H2O. Given that the molecular weight of CO2 =44 g/mol and the molecular weight of H2O=18 g/mol, determine the empiric formula for the CxHy sample (3 pts)

Mol CO2 = 6.5/44=0.1477 mols CO2 = mol C

Mol H2O = 3.989/18=0.2216 = ½ mol H=> mol H= 2\*0.2216=0.4432

**CxHy = C0.1477H0.4432 = C1H0.4432/0.1477=C1H3**

C1H3

Balance me ! (1 pt for each correct coefficient):

\_\_1\_\_C5H12 + \_\_8\_\_ O2 🡪 \_5\_\_CO2 + \_6\_\_H2O