**Mini-quiz #15 Chemistry 1114 section 2 (Fong) 3 October 2014 4 pts A**

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

**SHOW WORK FOR COMBUSTION PROBLEM OR NO CREDIT WILL BE ASSIGNED**

A hydrocarbon with the formula CxHy is burned to form 11 grams CO2 and 4.5 grams of H2O.

Given the molecular weights : CO2 = 44 g/mol, H2O=18 g/mol, provide a whole-numbered formula for CxHy. (2 pts)

Mol CO2 =11/44=0.25 = mol C

Mol H2O=4.5/18=0.25= ½ mol H=> mol H=0.50

C0.25H0.5🡪 CH2

\_\_\_\_CH2\_\_\_\_\_\_\_\_\_\_\_\_\_ empiric formula for CxHy

**Balance us:**

**\_\_4\_\_H2O2 + \_\_2\_\_Cu -🡪 \_\_2\_Cu(OH)2 +\_\_2\_H2O + \_1\_O2**

**Or 3 1 1 2 1**

**5 1 1 4 2**

**5 3 3 2 1**

**4 2 2 2 1**

**2 1 1 1 1**

**\_2\_\_\_C6H14 + \_19\_\_\_\_O2🡪 \_\_\_12\_\_CO2 + \_14\_\_\_H2O**

**Mini-quiz #15 Chemistry 1114 section 2 (Fong) 3 October 2014 4 pts B**

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

**SHOW WORK FOR COMBUSTION PROBLEM OR NO CREDIT WILL BE ASSIGNED**

A hydrocarbon with the formula CxHy is burned to form 5.5 grams CO2 and 1.125 grams of H2O.

Given the molecular weights : CO2 = 44 g/mol, H2O=18 g/mol, provide a whole-numbered formula for CxHy. (2 pts)

Mol CO2 =5.5/44=0.0.125 = mol C

Mol H2O=1.125/18=0.0.0625= ½ mol H=> mol H=0.0.125

C0.125H0.125🡪 CH

\_\_\_\_\_\_\_\_CH\_\_\_\_\_\_\_\_\_ empiric formula for CxHy

**Balance us:**

**\_\_4\_\_H2O2 + \_\_2\_\_Cu -🡪 \_\_2\_Cu(OH)2 +\_\_2\_H2O + \_1\_O2**

**Or 3 1 1 2 1**

**5 1 1 4 2**

**5 3 3 2 1**

**4 2 2 2 1**

**2 1 1 1 1**

**\_\_2\_\_C4H10 + \_\_\_13\_\_O2🡪 \_\_\_8\_\_CO2 + \_\_10\_\_H2O**