**Mini-quiz #18 Chemistry 1114 section 2 (Fong) 13 October 2014 4 pts A**

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

**Propane (C3H8) burns according to the stoichiometrically balanced reaction below:**

**C3H8 +5 O2 🡪 3CO2 + 4H2O**

**MW (g/mol) 44 32 44 18**

**a) How many grams of CO2 form when we burn 0.666 grams of C3H8 ? (Show work !)**

**0.666 g C3H8\*1 mol C3H8 /44 g C3H8 =0.0151 mol C3H8**

**Mol CO2/mol C3H8= 3/1=x/0.0151=> x=0.0454 mol CO2**

**Mass CO2 =44 g/mol \*0.0454=2**

**g CO2 =\_\_\_\_\_\_2\_\_\_\_\_\_\_**

**b)How many moles of H2O form with 4.5\*1023 molecules of CO2. (1 mol count = 6\*1023 molecules)**

**mol CO2 =4.5\*1023/6\*1023 = 0.75**

**mol H2O/mol CO2 = 4/3=x/0.75=> x=4\*0.75/3=1**

**Mol H2O=\_\_\_\_\_\_1\_\_\_\_\_\_\_\_**

**Mini-quiz #18 Chemistry 1114 section 2 (Fong) 13 October 2014 4 pts B**

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

**Propane (C3H8) burns according to the stoichiometrically balanced reaction below:**

**C3H8 +5 O2 🡪 3CO2 + 4H2O**

**MW (g/mol) 44 32 44 18**

**a) How many grams of H2O form when we burn 2.444 grams of C3H8 ? (Show work !)**

**2.444 g C3H8\*1 mol C3H8 /44 g C3H8 =0.0555 mol C3H8**

**Mol H2O/mol C3H8= 4/1=x/0.0555=> x= 4\*0.0555=0.222 mol H2O.**

**Mass H2O =18 g/mol \*0.222=4 g**

**g CO2 =\_\_\_\_4\_\_\_\_\_\_\_\_\_**

**b)How many moles of CO2 form from 2\*1024 molecules ofC3H8. (1 mol count = 6\*1023 molecules)**

**mol C3H8 =2\*1024/6\*1023 = 3.333**

**mol CO2/mol C3H8 = 3/1=x/3.333=> x=3\*3.333= 10 mol CO2**

**Moles CO2=\_\_\_\_10\_\_\_\_\_\_\_\_\_**