**Mini-quiz #18 Chemistry 1114 Friday 1 November 2013**

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

Given the balanced reaction below:

(MW g/mol)= 114 32 44 18

2C8H18 + 25 O2 🡪 16 CO2 + 18 H2O

1. What is the limiting reagent to make H2O if you burn 7.03 g C8H18 with

1.388\*1024 molecules of O2 ? [1 mol count=6\*1023 molecules].

Mol C8H18 =7.03/114=0.06166 => mol H2O= 0.06166\*18/2=0.55 smaller.

Mol O2 = 1.388\*1024/6\*1023 = 2.31=> mol H2O= 2.31\*18/25=1.66

Circle your choice

Limiting Reagent = O2 C8H18  3 pts

1. How many moles of CO2 can you make if you burn 0.5 grams O2 with 0.3 grams C8H18 ??

Mol O2 =0.5/32 =0.0156 => mol CO2 =0.0156\*16/25=0.00998~0.01

Mol C8H18 =0.3/114=0.00263=> mol CO2 = 0.00263\*16/2=0.021

Mol CO2 = \_\_\_\_\_**0.01**\_\_\_\_\_\_\_\_3 pts

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**6 pts**

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

(MW g/mol)= 114 32 44 18

2C8H18 + 25 O2 🡪 16 CO2 + 18 H2O

1. What is the limiting reagent to make H2O if you burn 28.12 g C8H18 with

1.388\*1024 molecules of O2 ? [1 mol count=6\*1023 molecules].

Mol C8H18 =28.12/114=0.247 => mol H2O= 0.247\*18/2=2.22

Mol O2 = 1.388\*1024/6\*1023 = 2.31=> mol H2O= 2.31\*18/25=1.66 smaller

Circle your choice

Limiting Reagent = O2 C8H18  3 pts

1. How many moles of CO2 can you make if you burn 1.0 grams O2 with 0.6 grams C8H18 ??
2. Mol O2 =1 /32 =0.03125 => mol CO2 =0.03125\*16/25=0.02 smaller
3. Mol C8H18 =0.6/114=0.00526=> mol CO2 = 0.00526\*16/2=0.042

Mol CO2 = \_\_\_\_0.02\_\_\_\_\_\_\_\_\_3 pts