Chemistry 115 Name key

Dr. Cary Willard

Quiz 4a (20 points) March 6, 2013

All work must be shown to receive credit. Give answers to the correct number of significant figures. Avogadro’s number = 6.022 x 1023/mol

1. (18 points)Trinitrotoluene or TNT has the chemical formula C7H4(NO2)3.
   1. Calculate the molar mass of TNT.
   2. Calculate the percent carbon in TNT.
   3. Calculate the mass of 6.47 mol of TNT.
   4. Calculate the number of molecules of TNT in 8.34 mol of TNT.
   5. Calculate the number of atoms of hydrogen in 6 molecules of TNT.
   6. Calculate the mass of one molecule of TNT.
2. (2 points) The molecular formula of benzene is C6H6. What is its empirical formula?

CH

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Quiz 4b (20 points) March 6, 2013

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1. (18 points)Trinitrotoluene or TNT has the chemical formula C7H4(NO2)3.
   1. Calculate the molar mass of TNT.
   2. Calculate the percent hydrogen in TNT.
   3. Calculate the mass of 9.45 mol of TNT.
   4. Calculate the number of molecules of TNT in 2.17 mol of TNT.
   5. Calculate the number of atoms of hydrogen in 52 molecules of TNT.
   6. Calculate the mass of one molecule of TNT.
2. (2 points) The molecular formula of hydrazine is N2H4. What is its empirical formula?

NH2

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Quiz 4c (20 points) March 6, 2013

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1. (18 points)Trinitrotoluene or TNT has the chemical formula C7H4(NO2)3.
   1. Calculate the molar mass of TNT.
   2. Calculate the percent nitrogen in TNT.
   3. Calculate the mass of 3.84 mol of TNT.
   4. Calculate the number of molecules of TNT in 3.59 mol of TNT.
   5. Calculate the number of atoms of hydrogen in 83 molecules of TNT.
   6. Calculate the mass of one molecule of TNT.
2. (2 points) The molecular formula of octene is C8H16. What is its empirical formula?

CH2

Chemistry 115 Name key

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Quiz 4d (20 points) March 6, 2013

All work must be shown to receive credit. Give answers to the correct number of significant figures. Avogadro’s number = 6.022 x 1023/mol

1. (18 points)Trinitrotoluene or TNT has the chemical formula C7H4(NO2)3.
   1. Calculate the molar mass of TNT.
   2. Calculate the percent oxygen in TNT.
   3. Calculate the mass of 8.41 mol of TNT.
   4. Calculate the number of molecules of TNT in 3.71 mol of TNT.
   5. Calculate the number of atoms of hydrogen in 19 molecules of TNT.
   6. Calculate the mass of one molecule of TNT.
2. (2 points) The molecular formula of ethane is C2H6. What is its empirical formula?

CH3