Chemistry 141 Name

Dr Cary Willard

Quiz 7a (20 points) March 15, 2012

1. (10 points) Under nonstandard conditions, oxidation of SO2 to form SO3 in oxygen gas absorbs 89.7 kJ/mol. The heat of formation of SO3 under these same conditions is -204.1 kJ/mol.
   1. Write an equation to show the oxidation of SO2 gas to SO3 gas including the correct ΔHrxn for the equation as written.
   2. Calculate the heat of formation of SO2 under these conditions.
2. (10 points) Calculate the ΔHrxn for the combustion of 1-pentene (C5H10) using bond energies from the back of your periodic chart.
   1. Write the balanced chemical reaction for the combustion of 1-pentene.
   2. Calculate the heat of reaction for 1-pentene per mole. Useful Lewis electron dot structures are shown below:



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Quiz 7b (20 points) March 15, 2012

1. (10 points) Under nonstandard conditions, oxidation of SO2 to form SO3 in oxygen gas absorbs 96.8 kJ/mol. The heat of formation of SO3 under these same conditions is -218.1 kJ/mol.
   1. Write an equation to show the oxidation of SO2 gas to SO3 gas including the correct ΔHrxn for the equation as written.
   2. Calculate the heat of formation of SO2 under these conditions.
2. (10 points) Calculate the ΔHrxn for the combustion of cyclohexene (C6H10) using bond energies from the back of your periodic chart.
   1. Write the balanced chemical reaction for the combustion of 1-pentene.
   2. Calculate the heat of reaction for 1-pentene per mole. Useful Lewis electron dot structures are shown below:

