Chemistry 141 - 4076 Name .

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Quiz 6A (20 points) October 3, 2007

1. (7 points) Calculate Hrxn for the following reaction:.

CaO(s) + CO2(g) 🡪 CaCO3(s)

Use the following reactions and given H’s

Ca(s) + CO2(g) + ½ O2(g) 🡪 CaCO3(s) H = -812.8 kJ

2 Ca(s) + O2(g) 🡪 2 CaO(s) H = -1269.8 kJ

1. (7 points) Top fuel dragsters and funny cars burn nitromethane as fuel according to the following balanced combustion equation:

2 CH3NO2(l) + 3/2 O2(g) 🡪 2 CO2(g) + 3 H2O (g) + N2(g)

The standard enthalpy of combustion for nitromethane is -709.2 kJ/mol. Calculate the standard enthalpy of formation (Hof) for nitromethane.

(Hof , CO2,g = -393.5kJ)

(Hof , H2O,g =-241.8kJ)

(Hof ,H2O,l =-285.8kJ)

1. (6 points) Calculate the energy of the following reaction based on bond energies



