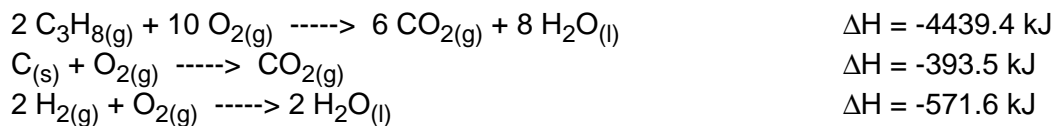
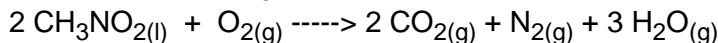


Thermochemistry and Thermodynamics Worksheet 3

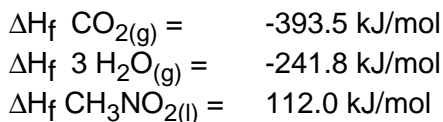
1. Calculate ΔH_f of propane, C_3H_8 , given the following information:



2. When nitromethane, CH_3NO_2 (molecular mass = 61.05) is burned the reaction occurs:



Given the following information:

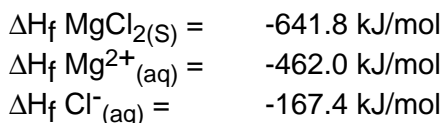


(A) Calculate ΔH for the burning of 1 mole of nitromethane.

(B) Is the reaction exothermic or endothermic?

(C) What is ΔH when 18.02 g $H_2O(g)$ is formed in the above reaction?

3. Given the following information:



(A) Calculate ΔH for the following reaction: $MgCl_2(s) \longrightarrow Mg^{2+}_{(aq)} + 2 Cl^{-}_{(aq)}$

(B) If 3.17 g $MgCl_2(s)$ (formula mass = 95.21) is dissolved in 250.0 g of water (S.H. = 4.184J/g°C) in a coffee-cup calorimeter, what would the final temperature of the water be if the water were initially at 19.00°C?