

**General Chemistry**  
**Mr. MacGillivray**  
**Quiz #33:**  
**Thermodynamics Calculations**

Suppose that 1.00 mol of  $\text{C}_2\text{H}_6$  (g) reacts completely with  $\text{O}_2$  (g) to produce  $\text{CO}_2$  (g) and  $\text{H}_2\text{O}$  (g).

Write the balanced chemical equation for this reaction.

Calculate the heat of combustion for this reaction. (That is, calculate  $\Delta H^\circ_{\text{rxn}}$ .)

Is this reaction exothermic or endothermic?  
How do you know?