

Thermochemistry Unit: Key Topics

- Enthalpy Calculations “Products minus reactants” using the green sheet
- Exothermic $\Delta H < 0$, Endothermic $\Delta H > 0$
- Calorimetry Equation $Q = mC\Delta T$
- Entropy Calculations “Products minus reactants” using the green sheet
- Predicting ΔS sign (positive or negative) from a balanced chemical equation
- Gibbs Free Energy Calculations “Products minus reactants” using the green sheet
- $\Delta G = \Delta H - T\Delta S$
- Using ΔG to determine spontaneity in chemical reactions
- Mathematical Equation that connects to ΔG to K_{eq} $\Delta G = -RT \ln K$ (Notes #2)
- Hess’s Law: Adding several different reactions together to calculate ΔH for a “target” reaction
- Heating & Cooling Curves for a pure substance: “What happens to temp during a phase change?”
- Enthalpy of Phase Changes: Heat of Fusion & Heat of Vaporization