

AP Chemistry

Thou Shalt Not Forget Questions

Thermochemistry

1. exo/endo reactions: (-)/(+) ΔH ; feels (hot/cold); heat is a (product/reactant); temperature goes (up/down)
 2. Breaking bonds/Forming Bonds is endo/exo.
 3. $\Delta H_{\text{rxn}} = \Delta H_{\text{products}} - \Delta H_{\text{reactants}}$ or $\Delta H_{\text{reactants}} - \Delta H_{\text{products}}$
 4. If a reaction is exo/endo, then the bonds formed in the products are (stronger or weaker) than the reactants?
 5. Doubling a reaction?/Reversing a reaction?/Adding reactions? What happens to ΔH ?
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Thermodynamics: ΔG and ΔS

1. Thermodynamically favorable (spontaneous) reactions have a what sign for ΔG ?
2. a) Reactions with what signs for ΔH and ΔS are ALWAYS/NEVER thermodynamically favorable?
b) If a reaction is “enthalpy driven & entropy driven”, what are signs of ΔH and ΔS ?
3. If a reaction increases/decreases the # of moles of gas, then the sign for ΔS is what?
4. If ΔG is (-)/(+), then K_{eq} is greater than or less than 1?
5. What are the most common units for ΔH and ΔS ?
6. At equilibrium, what is the value of ΔG ?
7. a) When using $\Delta G^\circ = -RT \ln K$, the value w/ units for R is _____.
b) If you use the value of 8.314 for R in the equation $\Delta G^\circ = -RT \ln K$, then what are the units for ΔG ?