Thermodynamics Equation Sheet

$\Delta G = \Delta H - T\Delta S$

$\Delta G^0 = -RTlnK$

$\Delta G = \Delta G^o + RTlnQ$

$\Delta U = q + w$

$w = -p\Delta V$

$\Delta H = q_p$

$\Delta G = -T\Delta S_{universe}$

$\Delta S_{universe} = \Delta S_{system} + \Delta S_{surrounding}$

$\Delta S_{universe} > 0$

$\Delta S = \frac{\Delta H}{T}$

$C_P = \frac{\Delta H}{\Delta T}$

$ln\frac{K_2}{K_1} = \frac{\Delta H}{R}\left(\frac{1}{T_1} - \frac{1}{T_2}\right)$