
Some equations and formulae that might or might not be useful:

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

$$\Delta G = \Delta G^{\circ} + RT \ln\{[\text{products}]/[\text{reactants}]\}$$

$$K_{eq} = [\text{products}]/[\text{reactants}]$$

$$\Delta G^{\circ} = - RT \ln\{K_{eq}\}$$

$$K_{eq} = \exp(-\Delta G^{\circ}/RT)$$

$$R = 8.31 \text{ J/K/mol}$$

$$k_B = 1.38 \times 10^{-23} \text{ J K}^{-1}; h = 6.62 \times 10^{-34} \text{ J s}$$

$$K_d = 1/K_a = \exp(\Delta G^{\circ}/RT)$$

$$K_d = [P][L]/[PL]$$

$$\theta = \frac{[L]}{[L] + K_d}$$

$$\theta = \frac{[L]^{n_H}}{[L]^{n_H} + K_d}$$

$$K_w = [H^+][OH^-] = 10^{-14} \text{ M}^2$$

$$\text{pH} = -\log[H^+]$$

$$K_a = [H^+][A^-]/[HA]$$

$$\text{pH} = \text{p}K_a + \log([A^-]/[HA])$$

$$[A^-]/[HA] = 10^{\text{pH}-\text{p}K_a}$$

$$k = \frac{k_B T}{h} \exp\left(-\frac{\Delta G^{\ddagger}}{RT}\right)$$

$$V_o = V_{\max} \frac{[S]}{[S] + K_m}$$

$$V_{\max} = k_{\text{cat}} [E]_{\text{tot}}; \quad K_m = (k_{-1} + k_2)/k_1$$

$$V_o = \frac{V_{\max}}{\alpha'} \frac{[S]}{[S] + K_m \frac{\alpha}{\alpha'}}$$

$$\alpha = 1 + \frac{[I]}{K_I}; \quad \alpha' = 1 + \frac{[I]}{K_I'}$$

I might add more equations or additional information if necessary