$$m = \frac{M \cdot I \cdot t}{F \cdot z}$$

$$Q = I \cdot t$$

$$Q = I \cdot t = \frac{m_{Ag} F}{M_{Ag}}$$

$$E = U \cdot Q$$

$$G = \kappa \cdot \frac{S}{l}$$

$$\kappa = \frac{1}{\rho}$$

$$C = R \cdot \kappa$$

$$\kappa = \kappa_{roztok} - \kappa_{H_2O}$$

$$\Lambda = \frac{\kappa}{c}$$

$$\Lambda_\infty = \nu^+ \lambda_+^\infty + \nu^- \lambda_-^\infty$$

$$\alpha = \frac{\Lambda}{\Lambda_\infty}$$

$$K = \frac{c\alpha^2}{1-\alpha}$$

$$a_i = c_i \cdot \gamma_i$$

$$\gamma_\pm = \sqrt[\nu]{\gamma_+^{\nu+} \gamma_-^{\nu-}}$$

$$I = \frac{1}{2} \sum_i c_i z_i^2$$

$$log\ \gamma_\pm = -A|z^+ z^-|\sqrt{I}$$

$$pH = -\log a_{H_3O^+}$$

$$K_w = a_{H_3O^+} \cdot a_{OH^-}$$

$$K_s = \frac{a_{B^{z+}}^{\nu+} a_{A^{z-}}^{\nu-}}{a_{B_{\nu^+}A_{\nu^-}}} = \frac{c_{B^{z+}}^{\nu+} c_{A^{z-}}^{\nu-} \gamma_\pm^\nu}{c^{\circ\nu}}$$

Silná kyselina:

$$pH = -\log c_{kys}$$

Silná zásada:

$$pOH = -\log c_{zásada}$$

Slabá kyselina:

$$pH = \frac{1}{2}(pK_{kys} - logc_{kys})$$

Slabá zásada:

$$pH = 14 - \frac{1}{2}(pK_{zas} - logc_{zas})$$

Sůl slabé kyseliny s silné zásady:

$$pH = 7 + \frac{1}{2}(pK_{kys} + logc_{sul})$$

Sůl slabé zásady a silné kyseliny:

$$pH = 7 - \frac{1}{2}(pK_{zas} + logc_{sul})$$

Sůl slabé kyseliny a slabé zásady:

$$pH = 7 + \frac{1}{2}(pK_{kys} - pK_{zas})$$

Amfolyt:

$$pH = \frac{1}{2}(pK_1 + pK_2)$$

Pufr (směs slabé kyseliny a její soli):

$$pH = pK_{kys} + log\frac{c_{sul}}{c_{kys}}$$

Pufr (směs slabé zásady a její soli):

$$pH = 14 - pK_{zas} + log\frac{c_{zas}}{c_{sul}}$$

$$f + v = s + 2$$

$$\frac{dp}{dT} = \frac{\Delta H_m}{T\Delta V_m} \qquad p_2 - p_1 = \frac{\Delta H_m}{\Delta V_m} \ln\frac{T_2}{T_1}$$

$$\frac{d\ln p}{dT} = \frac{\Delta_{výp} H_m}{RT^2} \qquad \ln\frac{p_2}{p_1} = -\frac{\Delta_{výp} H_m}{R}\left(\frac{1}{T_2} - \frac{1}{T_1}\right)$$

$$p_i = p_i^0 \cdot x_i$$

$$p = p_1 + p_2 = x_1 p_1^0 + x_2 p_2^0$$

$$y_1 = \frac{p_1}{p} = \frac{x_1 p_1^0}{p} = \frac{x_1 p_1^0}{x_1 p_1^0 + x_2 p_2^0}$$

$$f_2 = k_H \cdot x_2$$

$$\Delta p = p_1^0 - p_1 = p_1^0 x_2$$

$$\Delta T = K_E \cdot \mu_2$$

$$\Delta T = K_K \cdot \mu_2$$

$$\mu_2 = \frac{n_2}{m_R}$$

$$\Delta S = n\int_{T_1}^{T_2} \frac{c_p}{T} dT - \int_{p_1}^{p_2} \left(\frac{\partial V}{\partial T}\right)_p dp$$

$$\Delta S = n\int_{T_1}^{T_2} \frac{c_V}{T} dT + \int_{V_1}^{V_2} \left(\frac{\partial p}{\partial T}\right)_V dV$$

$$\Delta S = n\frac{\Delta H_{fáz}}{T_{fáz}}$$

$E = E_{red,pravý} - E_{red,levý}$

Pro reakci: $\nu_A A + \nu_B B \rightarrow \nu_C C + \nu_D D$

$$E = E^\emptyset - \frac{RT}{zF} ln\frac{a_C^{\nu_C} a_D^{\nu_D}}{a_A^{\nu_A} a_B^{\nu_B}}$$

$$\Delta_r G_m = -zFE \quad = -RTlnK$$