

$$y_D = y_{\text{BLANK}} + 3s_{\text{BLANK}}$$

$$y_Q = y_{\text{BLANK}} + 10s_{\text{BLANK}}$$

$$s = \text{sqrt}[(\sum x_i^2 - (\sum x_i)^2/n)/(n-1)]$$

$$y = \alpha + \beta x$$

$$S_{xx} = \sum x_i^2 - (\sum x_i)^2/n$$

$$S_{xy} = \sum x_i y_i - \sum x_i \sum y_i / n$$

$$\beta = \frac{S_{xy}}{S_{xx}} \quad \alpha = \bar{y} - \beta \bar{x}$$

$$\sigma_x^2 = \left(\frac{\partial x}{\partial a}\right)^2 \sigma_a^2 + \left(\frac{\partial x}{\partial b}\right)^2 \sigma_b^2 + \left(\frac{\partial x}{\partial c}\right)^2 \sigma_c^2$$

$$\sigma_x^2 = \sigma_a^2 + \sigma_b^2 + \sigma_c^2$$

$$\left(\frac{\sigma_x}{x}\right)^2 = \left(\frac{\sigma_a}{a}\right)^2 + \left(\frac{\sigma_b}{b}\right)^2 + \left(\frac{\sigma_c}{c}\right)^2$$

$$\text{LOD} = (y_D - \bar{y}_{\text{BLANK}})/\beta$$

$$\text{LOQ} = (y_Q - \bar{y}_{\text{BLANK}})/\beta$$

$$\Pi = P_{\text{IN}} - P_{\text{OUT}} = RT (c_{\text{IN}} - c_{\text{OUT}})$$

$$\ln (1 - R) = -k N^b P^a$$

$$R = 1 - \exp^{(-t/\tau)}$$

$$\tau \omega = \left(\frac{P}{d^2 \omega^2 \rho} \right)^\alpha$$

$$\ln(1 - R) = - (0.0149 - 2.75 \times 10^{-5} X) N^{0.71} P^{1.165}$$

$$f_p = \frac{m^p e^{-m}}{p!}$$

$$\psi_E(r) = \psi_{E0} \exp (-\kappa r)$$

$$\frac{1}{\kappa} = R_{\text{Debye}} = \sqrt{\frac{\varepsilon RT}{8\pi F^2 \sum c_i z_i^2}}$$