

Useful information: $N_A = 6.022140857 \times 10^{23}/\text{mol}$, $R = 8.314 \text{ J}/(\text{mol K}) = 0.08206 \text{ L atm}/(\text{mol K})$, $1 \text{ J} = 1 \text{ kg m}^2/\text{s}^2$, $1 \text{ L} = (0.1 \text{ m})^3$,
 $1 \text{ atm} = 1.01325 \text{ bar}$, $1 \text{ bar} = 10^5 \text{ Pa}$, $1 \text{ Pa} = 1 \text{ kg}/(\text{m s}^2)$, $u_{rms} = \sqrt{3RT/M} = u_{mp}\sqrt{3/2}$, $[p + a(n/V)^2](V - nb) = nRT$, $\Pi = icRT$,
 $\Delta T_{fp} = -imK_{fp}$, $\Delta T_{bp} = +imK_{bp}$, $p_{solvent} = x_{solvent}p^\circ_{solvent}$, $1 \text{ V} = 1 \text{ J}/\text{C}$, $F = 96,485 \text{ C}/\text{mol}$, $\ln(x) = \ln(10) \log(x) = 2.303 \log(x)$,
 $\Delta G = -n_eFE = RT\ln(Q/K) = \Delta H - T\Delta S$, $RT\ln(K) = -\Delta H^\circ + T\Delta S^\circ$, at 25°C $E = -(0.05912/n_e) \text{ V} \log(Q/K) = E^\circ - (0.05912/n_e) \text{ V} \log(Q)$,
 $S = (R/N_A)\ln(W) = k_B\ln(W)$, $\left(\frac{1}{2}\right)^n = \frac{[X]_n}{[X]_0}$, $\ln\left(\frac{[X]_t}{[X]_0}\right) = -kt$, $\ln\left(\frac{1}{2}\right) = -kt_{\text{half}}$, $nt_{\text{half}} = t$, $k = A e^{-E_a/(RT)}$