

$$1.1) \quad n_1 = n_0 + \xi$$

$$P_1 = (n_0 + \xi)RT = P_0 + \xi RT$$

$$K_p = \frac{P_A P_B}{P_C} = \frac{P_1^2 x_A x_B}{P_1 x_C}, \quad x_i = \frac{n_i}{n_1}, \quad x_A = x_B = \frac{\xi}{n_1}$$

$$K_p = (P_0 + \xi RT) \frac{\xi^2}{(n_0 - \xi)(n_0 + \xi)} = RT \frac{\xi^2}{n_0 - \xi}$$

$$RT\xi^2 + K_p\xi - K_p n_0 = 0$$

$$\xi = 10 \rightarrow P_A = P_B \approx 0.4 \text{ atm}$$

$$P_C = 0.6 \text{ atm}$$

1.2)

a) Likevekt mot venstre

b)

c) Likevekt mot høyre

2.1) SI-mat: Slå det opp...

$\Delta_r G < 0 \rightarrow$ Spontan prosess

2.2) Sjekk om $\Delta_r G < 0$, i såfall bør man regne med den.

$$3.1) \quad \Delta_r G = \Delta_r H - T\Delta_r S$$

Grafitt er stabl

$$3.2) \quad \Delta_r H = \Delta_r H^\circ, \quad r_x: A + B \rightarrow AB$$

MP
of Grafitt Diamant hvor A, B er grunnstoff
i grunnstilstand

Termo, Øving 6, Vegard G. Jævell

T1) $\Delta G = \Delta H - T\Delta S$

Gibbs energi er det frie termodynamiske
potensial for et system,
Energien som er "tilgjengelig"

T2) $\Delta A = \Delta U - T\Delta S$

Helmholtz energi er det arbeidet det
er mulig å hente ut av et system.

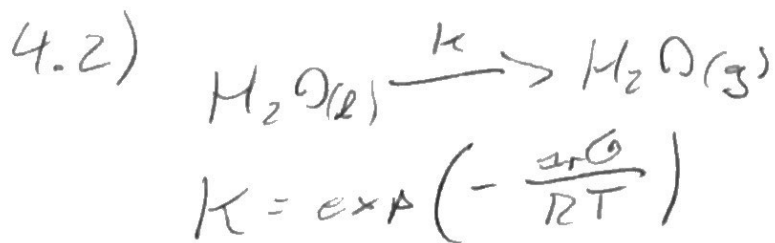
T3) $dg = dh - Tds = vdp - sdt = \left(\frac{\partial g}{\partial p}\right)dp + \left(\frac{\partial g}{\partial T}\right)dT$

$$dA = -PdV - SdT$$

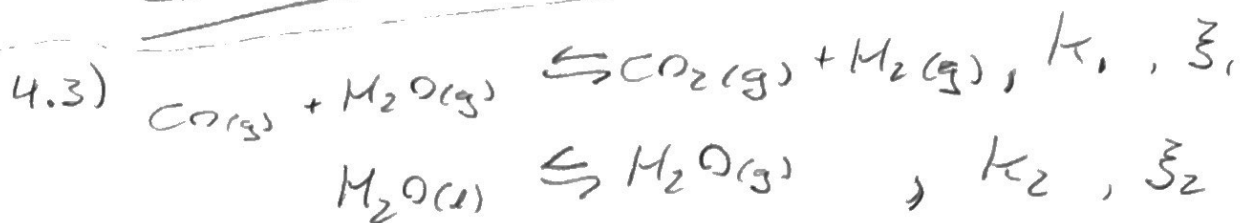
T4) Her står det $-SdT$ i stedet for TdS

$$4.1) \Delta_r G = \Delta_r H - T \Delta S$$

$$K = \exp\left(-\frac{\Delta_r G}{RT}\right)$$



$$K = \frac{a_{\text{H}_2\text{O}(g)}}{a_{\text{H}_2\text{O}(l)}} = P_{\text{H}_2\text{O}(g)}$$



$$\text{I } n_1^{\text{CO}} = n_0^{\text{CO}} - \xi_1$$

$$\text{II } n_1^{\text{H}_2\text{O}(g)} = n_0^{\text{H}_2\text{O}(g)} - \xi_1 + \xi_2$$

$$\text{III } n_1^{\text{CO}_2} = n_0^{\text{CO}_2} + \xi_1$$

$$\text{IV } n_1^{\text{H}_2} = n_0^{\text{H}_2} + \xi_1$$

$$\text{V } K_1 = \frac{P_{\text{CO}_2} P_{\text{H}_2}}{P_{\text{CO}} P_{\text{H}_2\text{O}}}$$

$$\text{VI } K_2 = P_{\text{H}_2\text{O}}$$

6 likningar

6 unknowne

$(n_1^{\text{CO}}, n_1^{\text{H}_2\text{O}}, n_1^{\text{CO}_2}, n_1^{\text{H}_2}, \xi_1, \xi_2)$

Kan løses i python,
Har bedre ting å
gjøre enn å løse
det for hånd :)

Vi sees på p5itting!