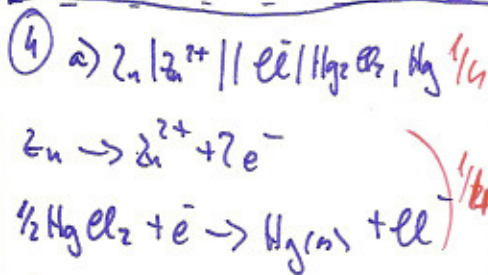


②  $T_V^{H_2O} = 90^\circ C \cdot \frac{1}{2}$

$T_V^{arg. l.} = 68.6^\circ C$

$\ln \frac{p_1}{p_2} = -\frac{\Delta H}{R} \left( \frac{1}{T_1} - \frac{1}{T_2} \right)$



$\frac{1}{T_2} = \frac{R}{\Delta H} \ln \frac{p_1}{p_2} + \frac{1}{T_1}$   
 $T_2 = 68.6^\circ C \cdot \frac{1}{2}$

b)  $E_0 = 0.245$

$E_a = E_{in} + \frac{RT}{2F} \ln a_{Zn^{2+}} = -0.821V$   $E = E_0 - E_a = 1.065V$

$R_u = R_z \left( \frac{e_x}{e_x'} - 1 \right) = 30k\Omega$

c) shema

$p_i = p_o \cdot e^{-\frac{\Delta H}{RT} \left[ \frac{1}{T_1} - \frac{1}{T_2} \right]}$

$p_i = 13 kPa$

$p_i = 31.5 kPa$

$p = x_1 p_1 + x_2 p_2 = 20 kPa$

$x_1 = x_2 \frac{x_1 p_1}{x_2 p_2}$

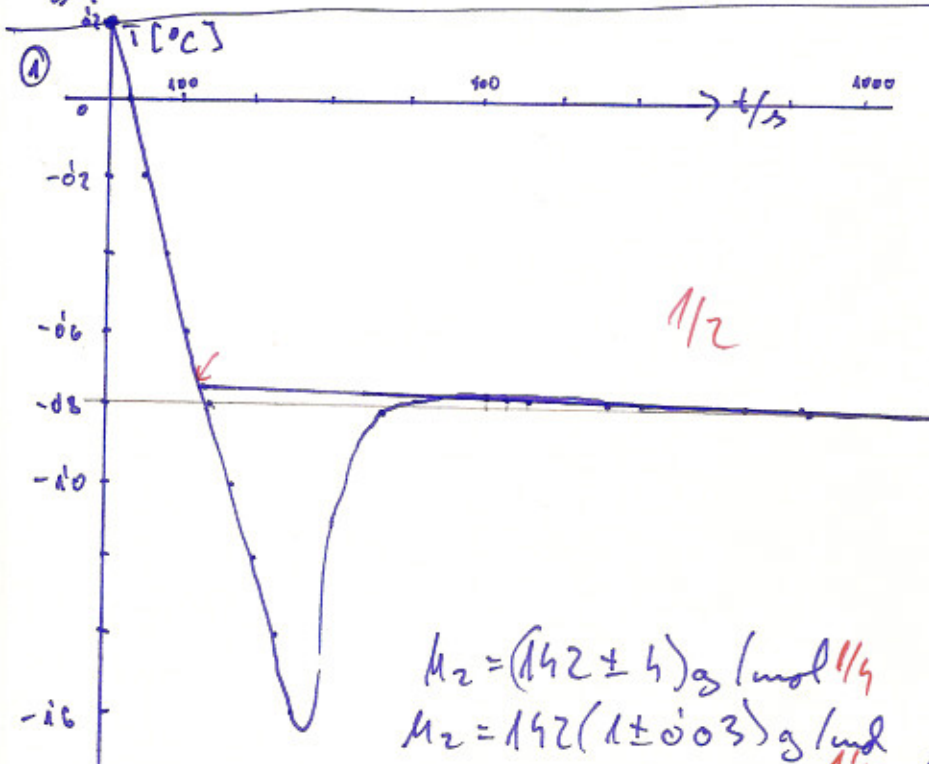
$x_1 + x_2 = 1$

$x_1 = 38.3\%$   $x_2 = 61.7\%$

$X_{und}$ (-dV)	$\frac{x}{m}$ (und/g)	$\log C_{p_0}$	$\log \frac{x}{m}$
0.0006	0.002	-0.466	-2.6930
0.0033	0.0011	-0.767	-2.9586
0.0022	0.00075	-1.127	-3.1249
0.0020	0.00062	-1.522	-3.1675
0.0012	0.00039	-1.8665	-3.4083
0.00069	0.00022	-2.2269	-3.6576

$a = 10^{-2.66} = 3.467 \cdot 10^{-3} \text{ und/g}$   
 $a_1 = 4.786 \cdot 10^{-3} \text{ und/g}$   
 $a_2 = 2.454 \cdot 10^{-3} \text{ und/g}$   
 $\Delta a = 1 \cdot 10^{-3} \text{ und/g}$   
 $a = (3 \pm 1) \cdot 10^{-3} \text{ und/g} = 3(1 \pm 0.3) \cdot 10^{-3} \text{ und/g}$

$b = 0.522$   $\Delta b = 0.11 \approx 0.1$   
 $b_1 = 0.596$   
 $b_2 = 0.41$   
 $b = (0.5 \pm 0.1) = 0.5(1 \pm 0.2)$



$T_z = (0.75 \pm 0.02)^\circ C$   $T_{ev} = 0^\circ C$   
 $\Delta T_z = (0.75 \pm 0.02)^\circ C$

$M_z = \frac{m_z K_k}{m_1 \Delta T_z} = \frac{1.14136g \cdot 1860g/K}{\text{und} \cdot 20 \cdot 0.9976/0.75}$

$M_z = 142.02 \text{ g/mol}$

$\frac{dM_z}{M_z} = \frac{dT}{T} + \frac{dm_z}{m_z} + \frac{dV}{V} =$   
 $= \frac{0.02}{0.75} + \frac{0.02}{20} + \frac{0.0001g}{1.14136g} =$   
 $= 0.02854 \approx 0.03$   
 $\Delta M_z \approx 4$

$M_z = (142 \pm 4) \text{ g/mol}$   
 $M_z = 142(1 \pm 0.03) \text{ g/mol}$