④ $A = -\log T$

$E = \varepsilon \cdot l \cdot c$

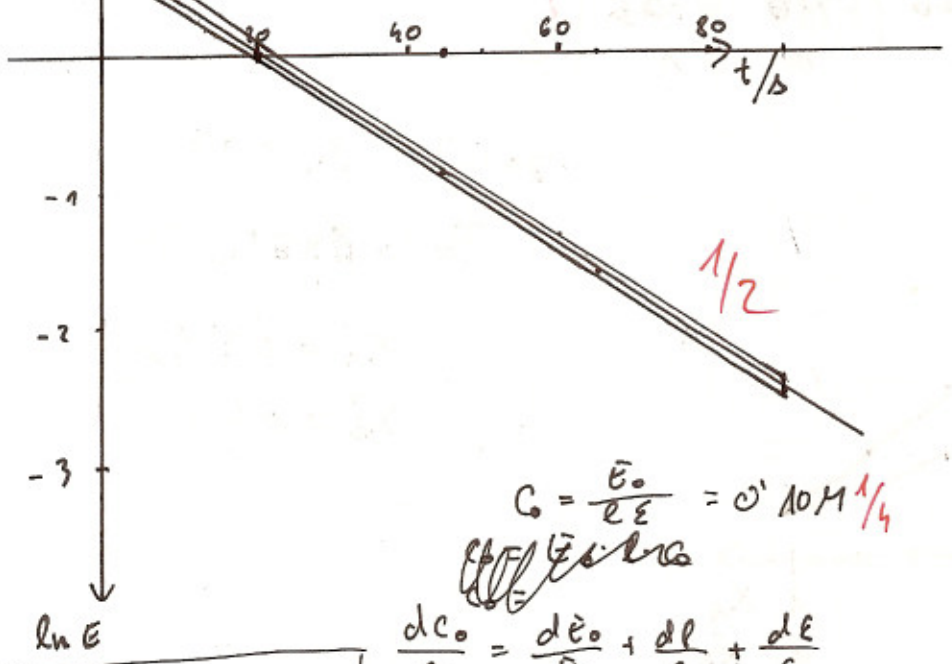
$c = c_0 \cdot e^{-kt}$

$E = E_0 \cdot e^{-kt}$

$\ln E = \ln E_0 - kt$

t	E	ln E
20	1	0
45	0'420	-0'867
60	0'252	-1'379
65	0'207	-1'572
90	0'091	-2'391

1/4



1/2

$\ln E_0 = 0'7$

$E_0 = 2.014$

$\ln E_0^1 = 0'6 \quad E_0^1 = 1'822$

$\ln E_0^2 = 0'8 \quad E_0^2 = 2'225$

1/4

$E_0 = (2,0 \pm 0'2) = 2,0(1 \pm 0'1)$

$k = \frac{2'5 - 0}{90 - 20} = 0'0357\ s^{-1}$

$t_{1/2} = \frac{\ln 2}{k} = 19'4\ s$ 1/4

$k_1 = \frac{2'48 \pm 0'1}{90 \cdot 20} = 0'0353\ s^{-1}$

$t_{1/2}^1 = 19'64\ s$

$k_2 = \frac{2'51 \pm 0'2}{90 - 20} = 0'0361\ s^{-1}$

$t_{1/2}^2 = 19'17\ s$

$\sigma t_{1/2} = 0'2$ 1/4

$t_{1/2} = (19'4 \pm 0'2)\ s$ 1/4

$t_{1/2} = 19'4(1 \pm 0'01)\ s$

$C_0 = \frac{E_0}{l\varepsilon} = 0'10\ M$ 1/4

$\frac{dc_0}{c_0} = \frac{dE_0}{E_0} + \frac{dl}{l} + \frac{d\varepsilon}{\varepsilon}$

$\frac{dc_0}{c_0} = 0'1 + 0'1 + 0'05 = 0'25$ 1/4

$C_0 = (0'10 \pm 0'02)M = 0'10(1 \pm 0'2)M$ 1/4

② $k = \frac{b}{S} = \frac{b}{a^2} = \frac{0'65\ cm}{1\ cm^2}$

$k = 0'65\ cm^{-1}$ 1/4 $\quad \frac{dk}{k} = 0'054$

$\chi_1 = \frac{k}{k_1} = 0'007065\ \Omega^{-1} cm^{-1}$ 1/4 $\quad \frac{d\chi_1}{\chi_1} = 0'0463$

$\chi_2 = \frac{k}{k_2} = 0'00116\ \Omega^{-1} cm^{-1}$ $\quad \frac{d\chi_2}{\chi_2} = 0'0532$

$\Lambda_1 = \frac{\chi_1}{c_1} = 88'3125\ cm^2 \Omega^{-1} mol^{-1}$ 1/4 $\quad \frac{d\Lambda_1}{\Lambda_1} = 0'0588$ 1/4

$\Lambda_2 = \frac{\chi_2}{c_2} = 116\ cm^2 \Omega^{-1} mol^{-1}$ $\quad \frac{d\Lambda_2}{\Lambda_2} = 0'1532$

$\sqrt{c_1} = 8'944 \cdot 10^{-3}\ mol^{1/2} cm^{-3/2}$ $\quad \frac{d\sqrt{c_1}}{\sqrt{c_1}} = \frac{1}{2}\frac{dc_1}{c_1} = 0'00625$

$\sqrt{c_2} = 3'162 \cdot 10^{-3}\ mol^{1/2} cm^{-3/2}$ $\quad \frac{d\sqrt{c_2}}{\sqrt{c_2}} = \frac{1}{2}\frac{dc_2}{c_2} = 0'05$

$A = \frac{\Lambda_2 - \Lambda_1}{\sqrt{c_1} - \sqrt{c_2}} = \frac{(116 - 88'3125)10^3}{8'944 - 3'162} = 4788\ cm^{7/2} mol^{-3/2} \Omega^{-1}$ 1/4

$\Lambda^\infty = \Lambda_1 + A\sqrt{c_1} = 131'14\ cm^2 \Omega^{-1} mol^{-1}$ 1/4

$d\Lambda^\infty = d\Lambda_1 + dA\sqrt{c_1} + A\,d\sqrt{c_1} = 42.56\ cm^2 \Omega^{-1} mol^{-1}$ 1/4

$\Lambda^\infty = (130 \pm 40)\ cm^2 \Omega^{-1} mol^{-1} = 130(1 \pm 0'3)\ cm^2 \Omega^{-1} mol^{-1}$ 1/4

$\frac{dA}{A} = \frac{d\Lambda_2 + d\Lambda_1}{\Lambda_2 - \Lambda_1} + \frac{d\sqrt{c_1} + d\sqrt{c_2}}{\sqrt{c_1} - \sqrt{c_2}}$ 1/4

$\frac{dA}{A} = \frac{22,96}{27,68} + \frac{0'2138 \cdot 10^{-3}}{5'782 \cdot 10^{-3}}$

$\frac{dA}{A} = 0'866 \qquad dA = 4149 \simeq 4000$

$A = (5 \pm 4) \cdot 10^3\ cm^{7/2} mol^{-3/2} \Omega^{-1} = 5(1 \pm 0'8) \cdot 10^3\ cm^{7/2} mol^{-3/2} \Omega^{-1}$ 1/4

① $\ln \frac{p_2}{p_1} = -\frac{\Delta H}{R}\left[\frac{1}{T_2} - \frac{1}{T_1}\right]$ $\quad p_2 = p_1 \cdot e^{\frac{\Delta H}{R}\left[\frac{1}{T_1} - \frac{1}{T_2}\right]}$

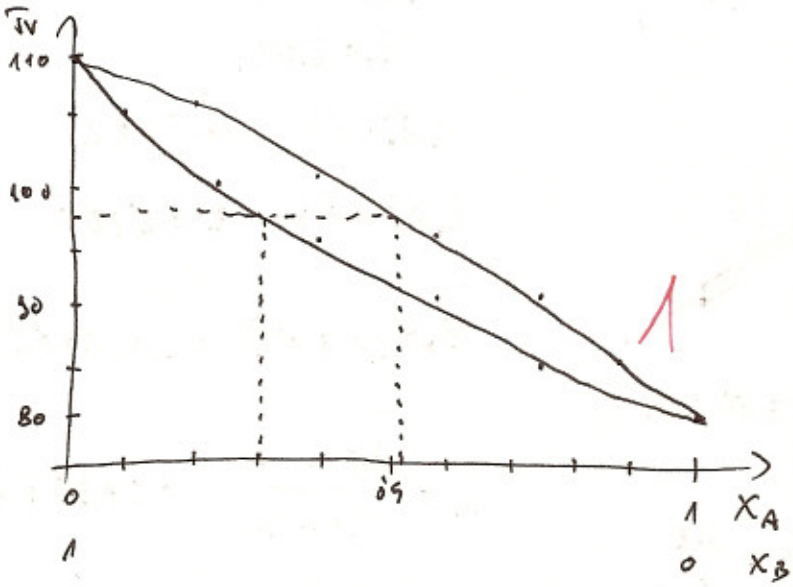
T[°C]	p_A	p_0	x_A	x_B	x_A'	x_B'
80'1	101'3	37.4	1	0	1	0
85	117'9	44.4	0'774	0'226	0'901	0'099
90	137,0	53,0	0'575	0'425	0'778	0'222
95	158,6	62.8	0'402	0'598	0'629	0'371
100	182,9	74.2	0'249	0'751	0'450	0'550
105	210,1	87.3	0'114	0'886	0'237	0'763
109'7	238,5	101'3	0	1	0	1

1/2

$p_0 = x_A p_A + x_B p_B$ (101,3)

$p_0 = p_B + x_A(p_A - p_B)$

$\frac{p_0 - p_B}{p_A - p_B} = x_A$



1

$x_B = 0'7 \quad x_A = 0'3$

$T_V \approx$ 98°C 1/2

$x_A' = 0'51$ 1/2

$x_B' = 0'49$

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③ $\frac{\gamma}{\gamma_0} = \frac{n_0 \rho}{n \rho_0}$ 1/2 $\quad n = \frac{n_0 \rho \gamma_0}{\rho_0 \gamma} = \frac{53 \cdot \cdot 1'024 \cdot 72,78}{0'998 \cdot 84'56}$

$n = 46'8$ 1

$mg = 2\pi R\gamma$

$\rho \cdot V \cdot g = 2\pi R\gamma$

$V = \frac{2\pi R\gamma}{\rho \cdot g} = \frac{2\pi \cdot (0'156) \cdot 84'56 \cdot 10^{-3} \cdot 10^{4}}{1 \cdot 1024 \cdot 9'81}$

$V = 0'041\ cm^3$ 1/2

$V_{izt} = n \cdot V = 1'93\ cm^3$ 1/2