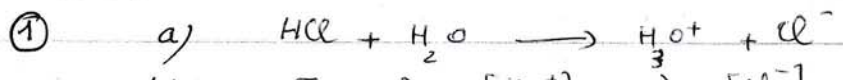


Correction

EX I

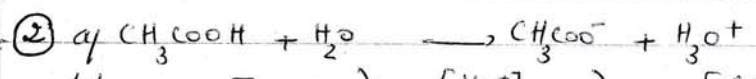


b) $\sigma_1 = \lambda_{\text{H}_3\text{O}^+} [\text{H}_3\text{O}^+] + \lambda_{\text{Cl}^-} [\text{Cl}^-]$

c/ on a $[\text{H}_3\text{O}^+] = [\text{Cl}^-] \Rightarrow \sigma_1 = (\lambda_{\text{H}_3\text{O}^+} + \lambda_{\text{Cl}^-}) [\text{H}_3\text{O}^+] \Rightarrow [\text{H}_3\text{O}^+] = \frac{\sigma_1}{\lambda_{\text{H}_3\text{O}^+} + \lambda_{\text{Cl}^-}}$

$[\text{H}_3\text{O}^+] = [\text{Cl}^-] = 0,01 \cdot 10^3 \text{ mol/m}^3 = 10^{-2} \text{ mol/l}$

d/ puisque $[\text{H}_3\text{O}^+] = c_1 \Rightarrow$ la réaction est totale.



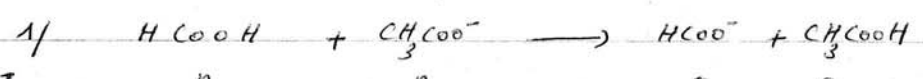
b/ $\sigma_2 = \lambda_{\text{H}_3\text{O}^+} [\text{H}_3\text{O}^+] + \lambda_{\text{CH}_3\text{COO}^-} [\text{CH}_3\text{COO}^-]$ avec $[\text{H}_3\text{O}^+] = [\text{CH}_3\text{COO}^-]$

c/ $[\text{H}_3\text{O}^+] = \frac{\sigma_2}{\lambda_{\text{H}_3\text{O}^+} + \lambda_{\text{CH}_3\text{COO}^-}} = 0,4 \text{ mol/m}^3 = 0,4 \cdot 10^{-3} \text{ mol/l}$

d/ $[\text{H}_3\text{O}^+] < c_2 \Rightarrow$ la réaction n'est pas totale.

EX II

Na^+ est un ion indifférent sa concentration reste constante $[\text{Na}^+] = \frac{n_2}{V}$



2/	E.I	n_1	n_2	0	0
	E.F	$n_1 - x_f$	$n_2 - x_f$	x_f	x_f

3/ $[\text{HCOO}^-] = \left(\frac{x_f}{V}\right)$ $[\text{CH}_3\text{COO}^-] = \frac{n_2 - x_f}{V} = \frac{n_2}{V} - \left(\frac{x}{V}\right)$

d'ou $[\text{CH}_3\text{COO}^-] = \frac{n_2}{V} - [\text{HCOO}^-]$

4/ $\sigma = \lambda_{\text{HCOO}^-} [\text{HCOO}^-] + \lambda_{\text{CH}_3\text{COO}^-} [\text{CH}_3\text{COO}^-] + \lambda_{\text{Na}^+} [\text{Na}^+]$

$\sigma = \lambda_1 [\text{HCOO}^-] + \lambda_2 \left(\frac{n_2}{V} - [\text{HCOO}^-]\right) + \lambda_3 \frac{n_2}{V}$

$\sigma = [\text{HCOO}^-] (\lambda_1 - \lambda_2) + \frac{n_2}{V} (\lambda_2 + \lambda_3)$

5/ $[\text{HCOO}^-] = \frac{\sigma - \frac{n_2}{V} (\lambda_2 + \lambda_3)}{\lambda_1 - \lambda_2} = \frac{0,973 - \frac{5 \cdot 10^{-3}}{50 \cdot 10^{-3}} (4,03 + 5,91) \cdot 10^{-3}}{(5,46 - 4,03) \cdot 10^{-3}} = 45,9 \text{ mol/m}^3$

$[\text{HCOO}^-] = 4,59 \cdot 10^{-2} \text{ mol/l}$

$[\text{CH}_3\text{COO}^-] = \frac{n_2}{V} - [\text{HCOO}^-] = \frac{5 \cdot 10^{-3}}{50 \cdot 10^{-3}} - 4,59 \cdot 10^{-2} = 5,4 \cdot 10^{-2} \text{ mol/l}$