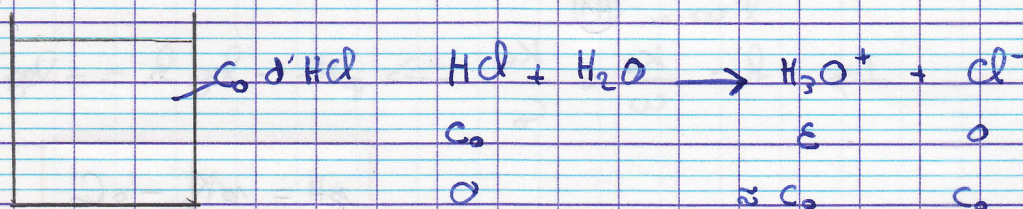
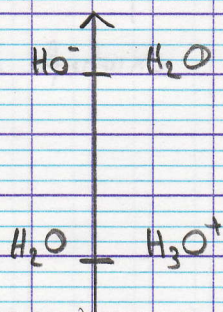


5) pH d'une solution d'acide fort

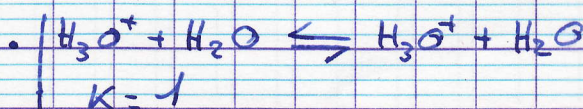
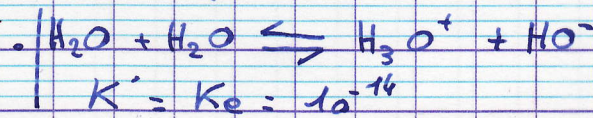


Cas où l'autoprotolyse est négligeable (à vérifier $pH < 6,5$) (H1)

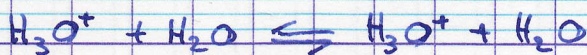
espèces en solution



2 réactions possibles



comme $K \gg K'$ la réaction prépondérante



équilibre C_0 excès C_0 excès

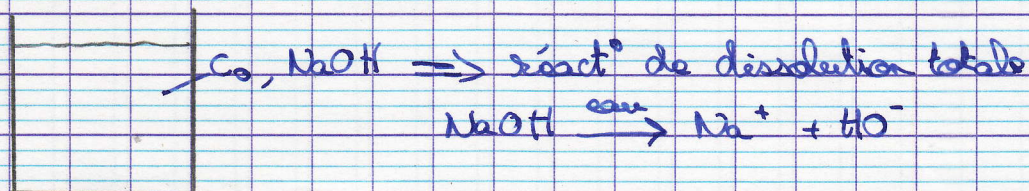
$\rightarrow pH = -\log[H_3O^+] = -\log C_0$

AN: si $C_0 = 10^{-3} \text{ mol.L}^{-1}$ $pH = 3$

Vérification de (H1) } ex
 $pH < 6,5$

6) Cas d'une Base forte

On introduit NaOH des un bicarbonate



$\left\{ \begin{array}{l} [\text{HO}^-] = C_0 \\ \text{en négligeant les ions } \text{HO}^- \text{ issus de l'autoprotolyse de l'eau (H1)} \end{array} \right.$

$$\rightarrow h = \frac{K_e}{\omega} = \frac{K_e}{C_0} \Rightarrow \text{pH} = -\log h = -\log K_e + \log C_0$$

$$\text{pH} = \text{p}K_e - \text{p}C_0 \quad \text{avec } \text{p}C_0 = -\log C_0$$

AN: si $C_0 = 10^{-3} \text{ mol.l}^{-1}$

$$\text{pH} = 14 + \log 10^{-3} = 14 - 3 = 11 > 7,5$$

↑
on vérifie bien (H1) : calcul OK.