

ELEMENTS de COORECTION du TD chapitre T5 – partie 2
Chimie des solutions aqueuses – Equilibres acides-bases
Exercice 9

$$1/a) \beta = \frac{dC_b}{d\text{pH}} \approx \frac{\Delta C_b}{\Delta \text{pH}} \quad \Delta \text{pH} = \frac{\Delta C_b}{\beta} = 9,1 \cdot 10^{-3}$$

$$b) \Delta \text{pH} = -9,1 \cdot 10^{-3}$$

$$c) \Delta \text{pH} = 0 \quad \left(\text{pH} = \text{pK}_a + \log \frac{[\text{A}^-]}{[\text{AH}]} \text{ indep de la dilution} \right)$$

$$2/a) \left. \begin{array}{l} \text{pH initial} = 13 \\ \text{pH final} = 14 + \log 0,105 = 13,02 \end{array} \right\} \Delta \text{pH} = 0,02$$

$$b) \text{pH}_i = 13 \quad \text{pH}_f = 14 + \log 0,095 = 12,98 \Rightarrow \Delta \text{pH} = -0,02$$

$$c) \text{pH}_i = 13 \quad \text{pH}_f = 14 + \log 0,01 = 12 \Rightarrow \Delta \text{pH} = 1$$

c'est un pseudo-tampon

$$3/a) \Delta \text{pH} = 0,02 \quad b) \Delta \text{pH} = -0,02 \quad c) \Delta \text{pH} = 1$$

$$4/a) \text{pH}_i = 7 \quad \text{pH}_f = 11,7 \quad \Delta \text{pH} = 4,7$$

$$b) \Delta \text{pH} = -4,7$$

$$c) \Delta \text{pH} = 0 \quad !$$