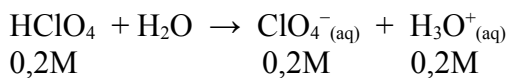


Problema604: Calcula la  $[H_3O^+]$ ,  $[OH^-]$ , pH y pOH de: a) Una disolución 0,2M de  $HClO_4$ . b) Una disolución 0,035M de  $NaOH$ .

a) Un ácido fuerte está totalmente disociado:



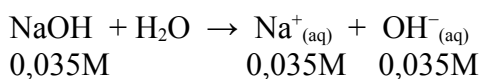
$$[H_3O^+] = \underline{\underline{0,2M}}$$

$$[OH^-] = \frac{K_w}{[H_3O^+]} = \frac{1 \cdot 10^{-14}}{0,2} = \underline{\underline{5 \cdot 10^{-14} M}}$$

$$pH = -\log[H_3O^+] = -\log 0,2 = \underline{\underline{0,70}}$$

$$pOH = -\log[OH^-] = -\log 5 \cdot 10^{-14} = \underline{\underline{13,30}}$$

b) Un base fuerte está totalmente disociada:



$$[OH^-] = \underline{\underline{0,035M}}$$

$$[H_3O^+] = \frac{K_w}{[OH^-]} = \frac{1 \cdot 10^{-14}}{0,035} = \underline{\underline{2,86 \cdot 10^{-13} M}}$$

$$pOH = -\log[OH^-] = -\log 0,035 = \underline{\underline{1,46}}$$

$$pH = -\log[H_3O^+] = -\log 2,86 \cdot 10^{-13} = \underline{\underline{12,54}}$$