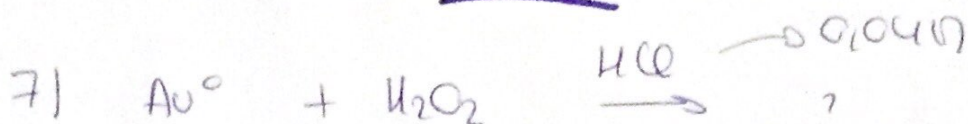


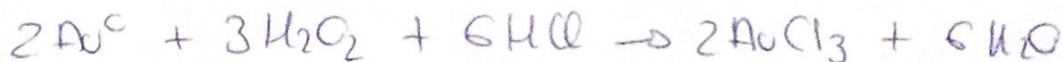
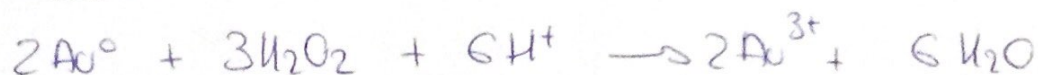
## EJERCICIOS BLOQUE III

### REDOX



Sol:

SON REACCIONES:



$$E_{\text{cel}}^0 = E_{\text{cátodo}}^0 \xrightarrow{\text{H}_2\text{O}_2} - E_{\text{ánodo}}^0 \xrightarrow{\text{Au}}$$

$$E_{\text{cel}}^0 = 1,763\text{V} - 1,498\text{V} = 0,265\text{V}$$

ESP.

¡NO TODAS LAS CONCENTRACIONES ESTÁN

Cartagena99

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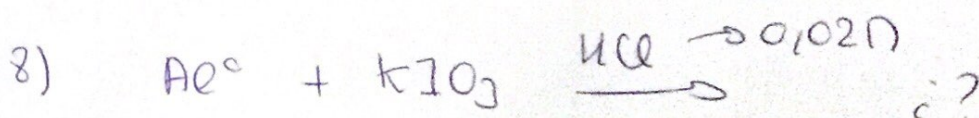
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$$E_{\text{red}} = 0,261 \text{ (V)} - \frac{0,059}{3 \times 2} \log \frac{(\text{Au}^{3+})^2 \overset{10}{\text{H}_2\text{O}}}{\text{Au} \underset{\text{solida}}{(\text{H}_2\text{O}_2)^3} (\text{H}^+)^6 \overset{\text{disolvente}}{(0,04)^6}}$$

$$E_{\text{red}} = 0,265 \text{ (V)} - \frac{0,059}{6} \log \frac{1}{(0,04)^6}$$

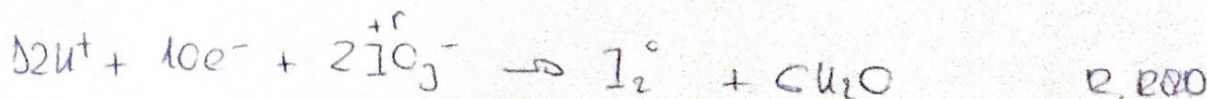
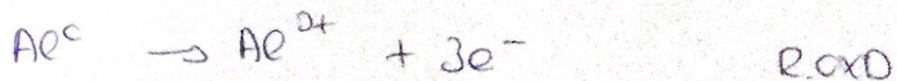
$$E_{\text{red}} = \underline{0,122 \text{ (V)}} \quad \text{ESP.}$$

EL  $\text{Au}^0$  SE OXIDA EN  $\text{H}_2\text{O}_2$  A  $\text{pH} = 1,4$ ,



DATOS:  $E^\circ (\text{Au}^{3+} / \text{Au}^0) = -1,65 \text{ V}$

$E^\circ (\text{IO}_3^- / \text{I}_2) = 0,21 \text{ V} \rightarrow \text{q} = \mathbf{I} \rightarrow \mathbf{x} = +5$



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$$E_{\text{cel}}^{\circ} = E_{\text{cat}}^{\circ} - E_{\text{an}}^{\circ} = 0,25 \text{ (V)} - (-1,66 \text{ (V)})$$

$$E_{\text{cel}}^{\circ} = 1,91 \text{ V BSP}$$

$$E_{\text{cel}} = E_{\text{cel}}^{\circ} - \frac{0,059}{30} \log \frac{(\text{Al}^{3+})^{10} (\text{I}_2)^3 (\text{H}_2\text{O})^{12} (\text{H}^+)^{10}}{(\text{Al})^0 (\text{HI})^{30} (\text{KIO}_3)^6}$$

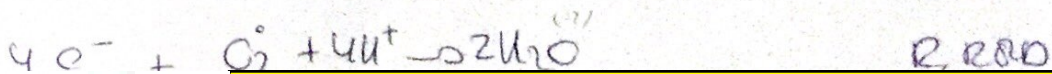
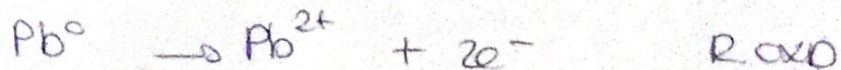
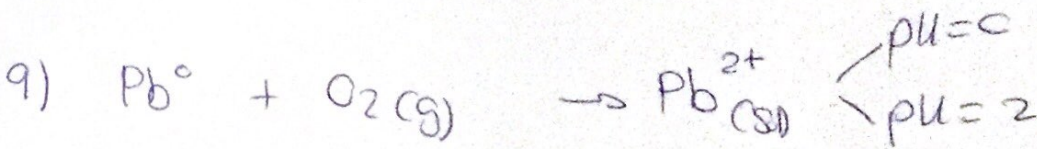
$\begin{matrix} \text{Al}^{3+} & 10 & \text{I}_2 & 3 & \text{H}_2\text{O} & 12 & \text{H}^+ & 10 \\ \text{Al} & 0 & \text{HI} & 30 & \text{KIO}_3 & 6 \end{matrix}$

$$E_{\text{cel}} = 1,91 \text{ V} - 0,12$$

$$E_{\text{cel}} = 1,79 \text{ V BSP}$$

NO ES ESTABLE AL AL EN  $\text{KIO}_3$

$$A \text{ pu} = 1,7$$



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$$E_{\text{cel}} = 1,35 \text{ V BSP} \rightarrow \text{NO ES ESTABLE AL AL EN } \text{H}_2\text{SO}_4$$



A  $pH = 2 \rightarrow [H^+] = 10^{-2} M$

$$E_{\text{cell}} = 1,36 V - \frac{0,059}{2} \log \frac{(Pb^{2+})^2 (Cu)}{(Pb)^2 (Cu^{2+})^4}$$

$\frac{dxdv}{2}$   
 $\frac{dx}{2}$   
 $\frac{dx}{2}$

$$E_{\text{cell}} = 1,36 V - 0,236 \neq 1,124 V$$

SE CONSIGUIÓ TB A  
 $pH = 2$



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