



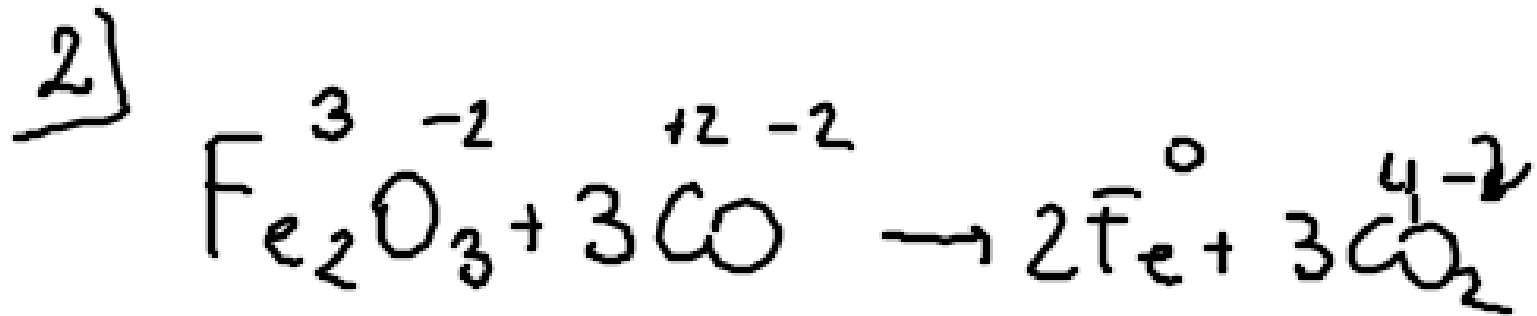
Como $\text{Co} \begin{matrix} +2 \\ +3 \end{matrix}$

Voy a suponer $\text{Co} = +2$

$$\text{Co}_2^{\text{+2}}(\text{S}^{\text{x}}\text{O}_4^{\text{-2}})_3 \rightarrow 4 + 3x - 24 = 0$$

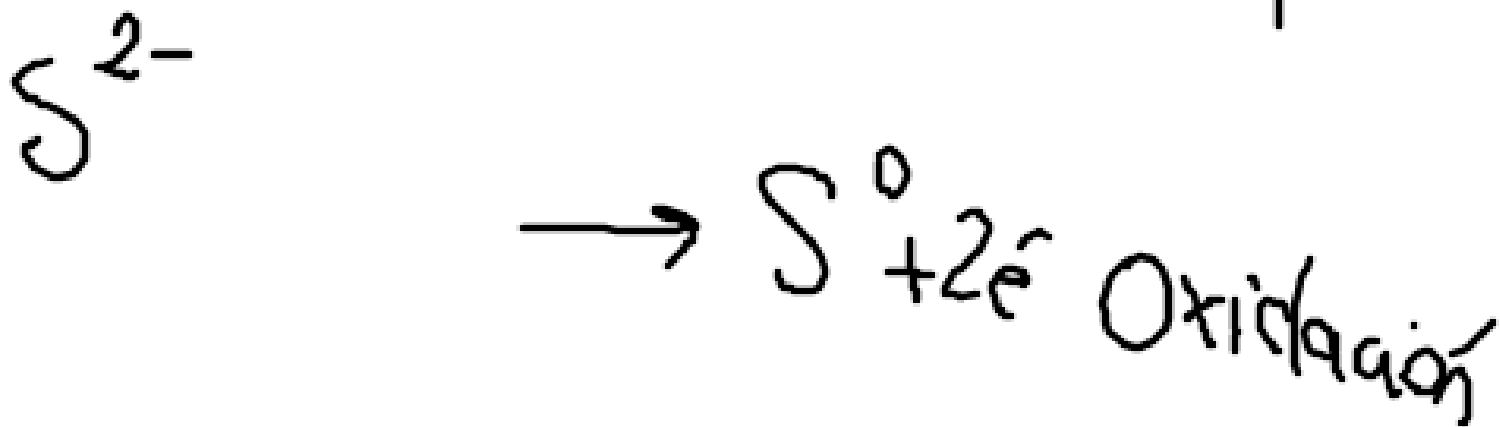
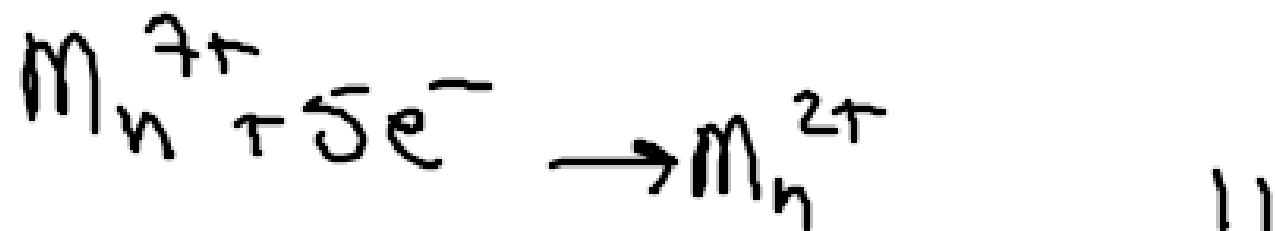
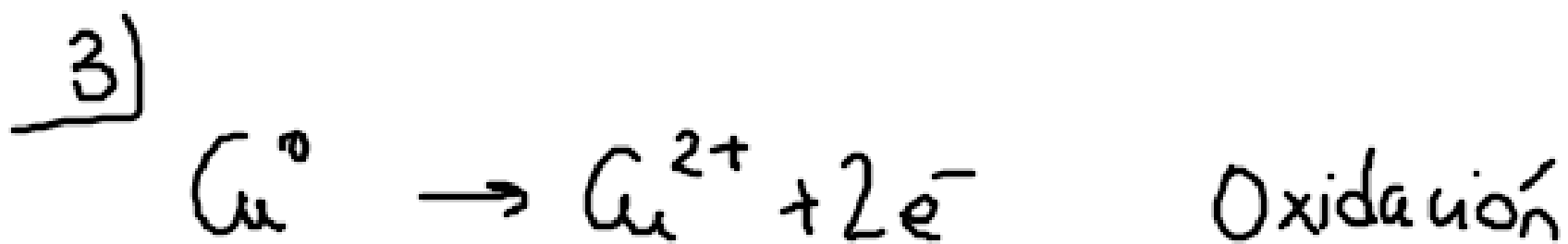
$$3x = 20 \rightarrow x = \frac{20}{3} \rightarrow \text{NO!}$$

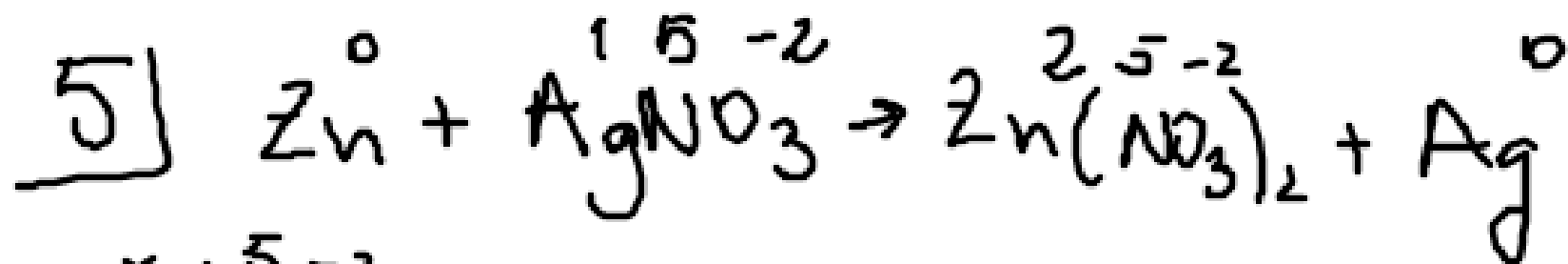
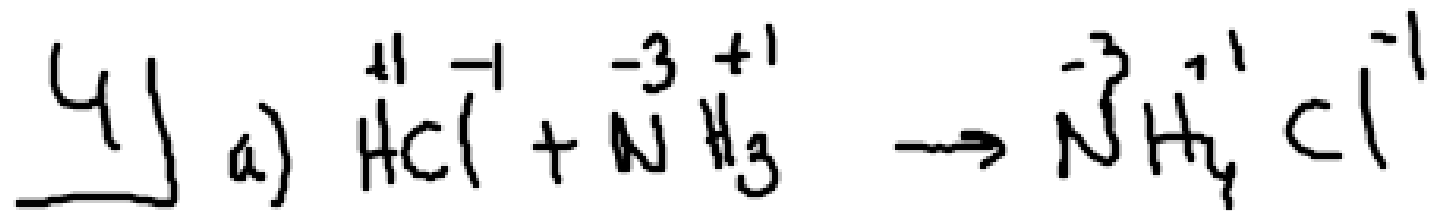
Entonces $\text{Nox}(\text{Co}) = +3$



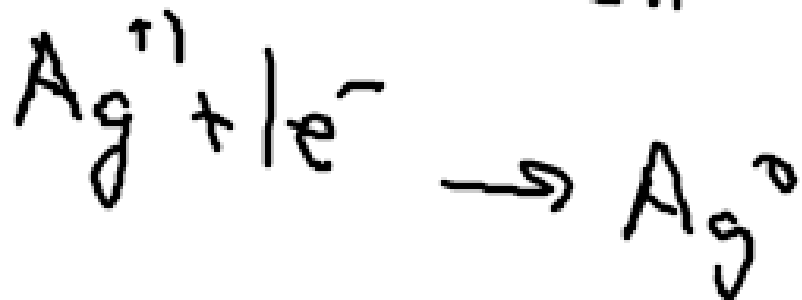
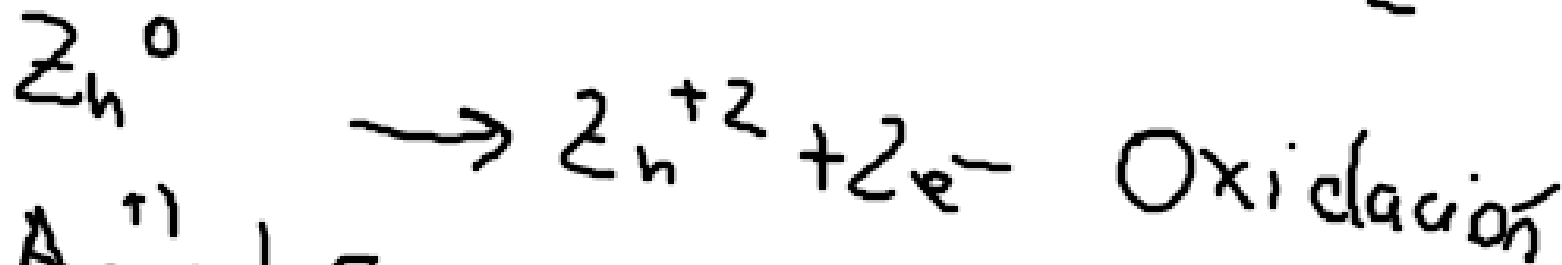
Sí es redox, hay cambios en el nox





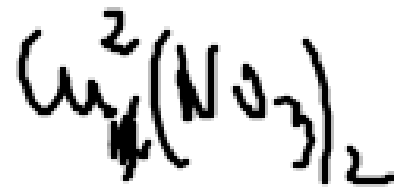


$$\overset{x}{\text{Zn}}(\overset{+5}{\text{N}}\overset{-2}{\text{O}_3})_2 \rightarrow x + 10 - 12 = 0 \rightarrow x = 2$$

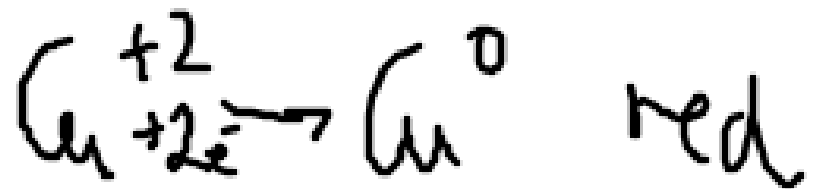
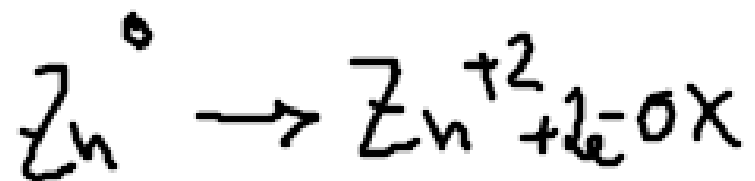


Reducción

Pilas electroquímicas



puente salino,
sirve para equilibrar
cargas.

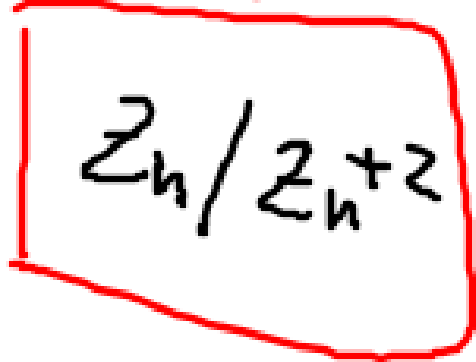


Ánodo \rightarrow donde se produce la oxidación
 \hookrightarrow polo negativo

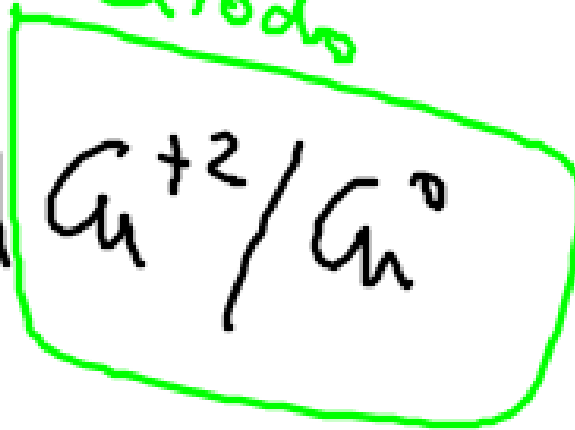
Cátodo \rightarrow donde se produce la reducción
 \hookrightarrow polo positivo.

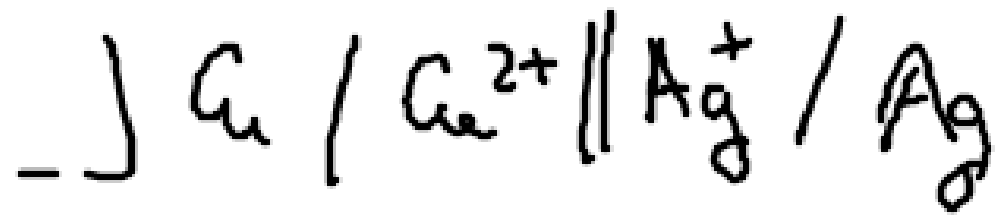
¿Cómo se nombran las pilas?

Ánodo

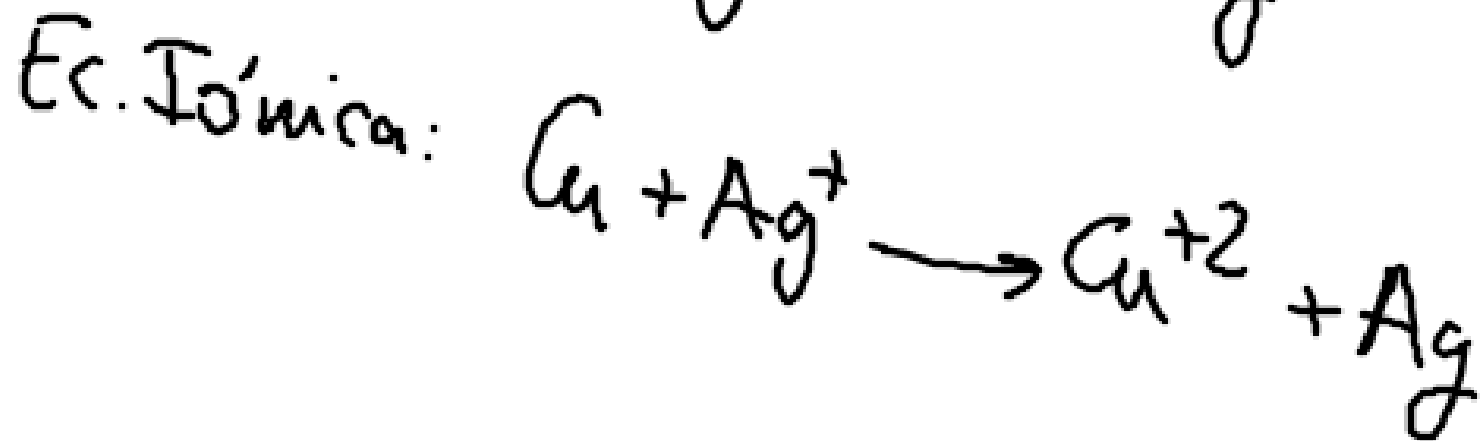
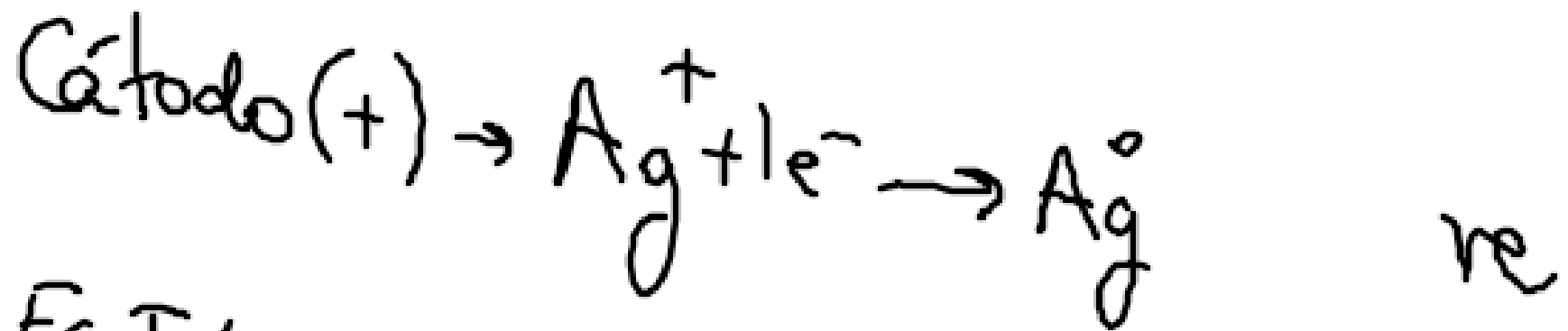


Cátodo



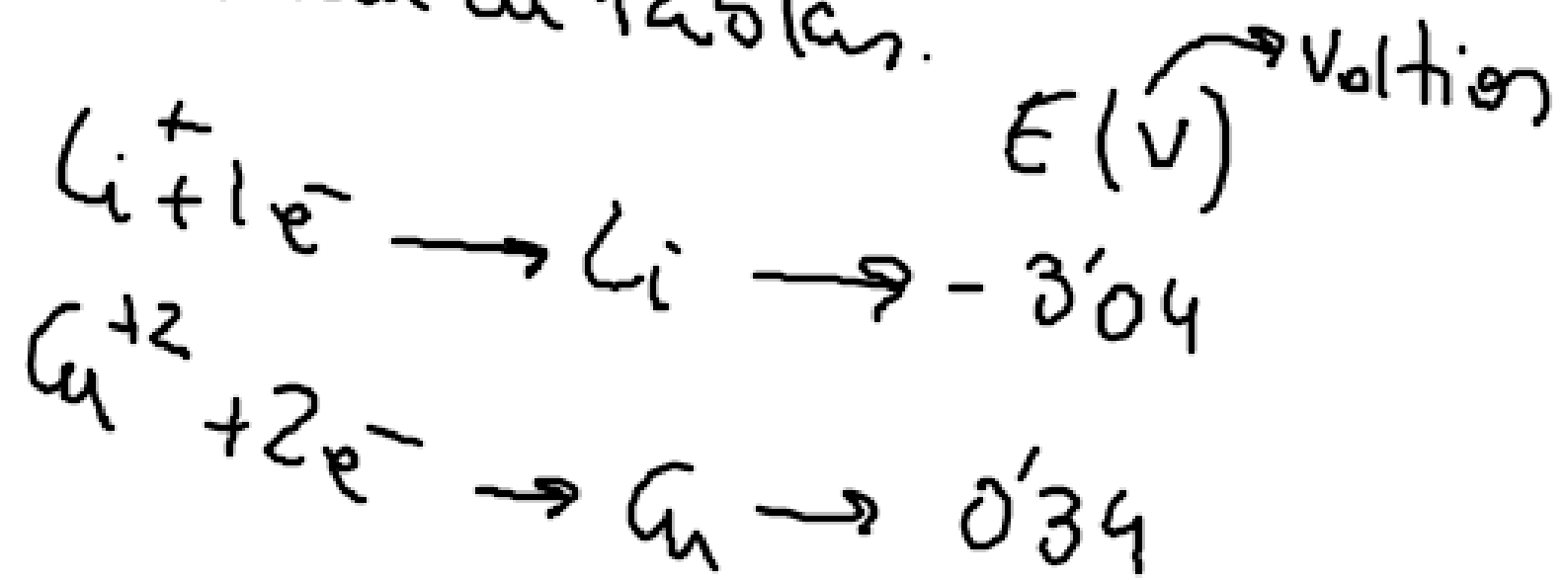


Reacciones ánodo y cátodo.



Energía de las pilas (P294)

Cada especie que se reduce o oxida, lleva asociado un potencial, que os darán en tablas.

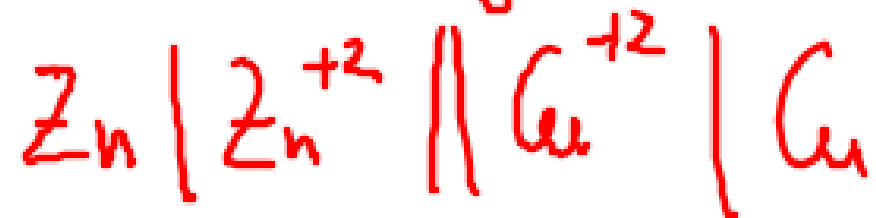


$$\Delta E_{\text{pila}} = E_{\text{cátodo}} - E_{\text{ánodo}}$$



Energía de una pila

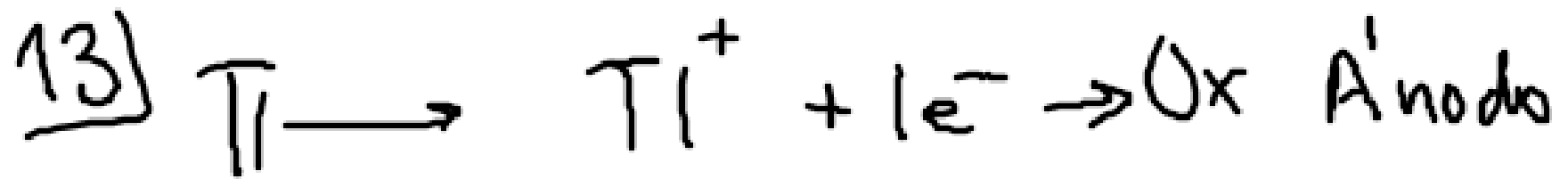
Halla la energía de la pila



$$E_{\text{Zn}^{2+}/\text{Zn}} = -0.76$$

$$E_{\text{Cu}^{2+}/\text{Cu}} = 0.34$$

$$\Delta E = E_{\text{cátodo}} - E_{\text{ánodo}}: 0.34 - (-0.76) = \underline{\underline{1.1 \text{ V}}}$$



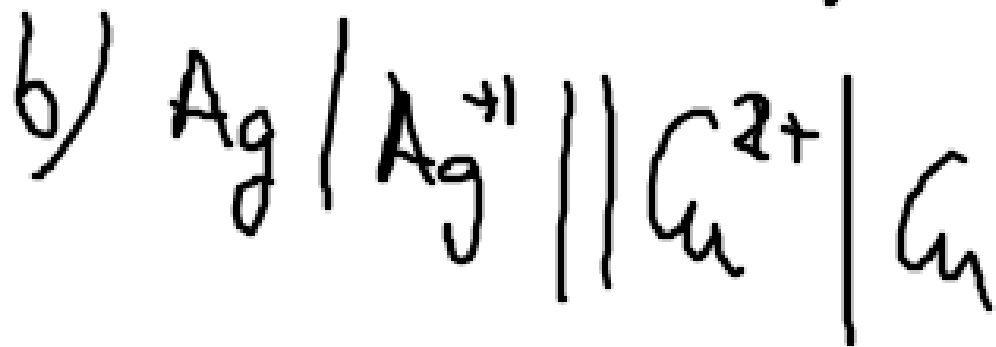
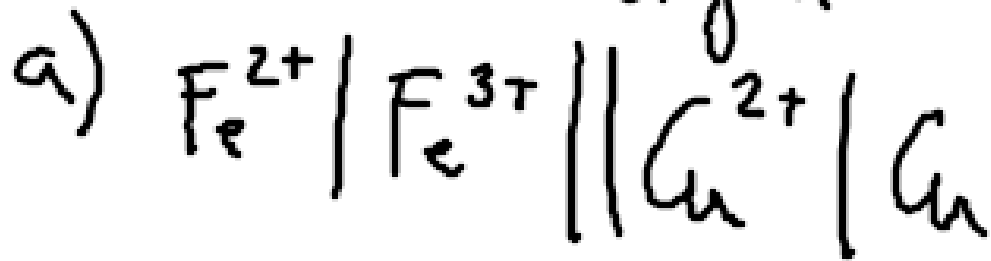
$$E^\circ_{\text{Fe}^{2+}/\text{Fe}^{3+}} = 0.77 \quad E^\circ_{\text{Tl}^+/\text{Tl}} = -0.34 \text{ V}$$

$$\Delta E_{\text{pila}} = 0.77 - (-0.34) = \underline{\underline{1.11 \text{ V}}}$$

Datos: $E_{\text{Ag}^+/\text{Ag}}^{\circ} = 0.80 \text{ V}$; $E_{\text{Cu}^{2+}/\text{Cu}}^{\circ} = 0.34 \text{ V}$

$$E_{\text{Fe}^{3+}/\text{Fe}^{2+}}^{\circ} = 0.77 \text{ V}$$

Calcular la energía de estas pilas:



Escribir las
semireacciones.