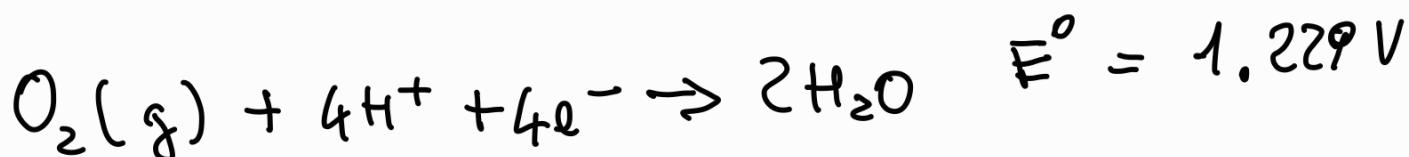
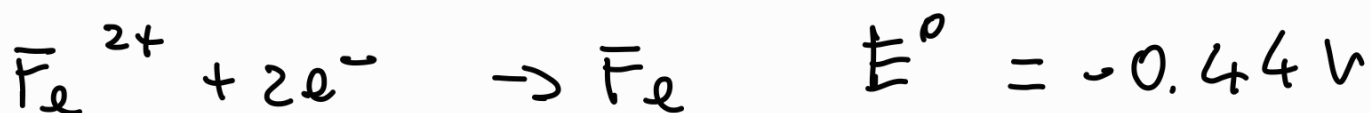
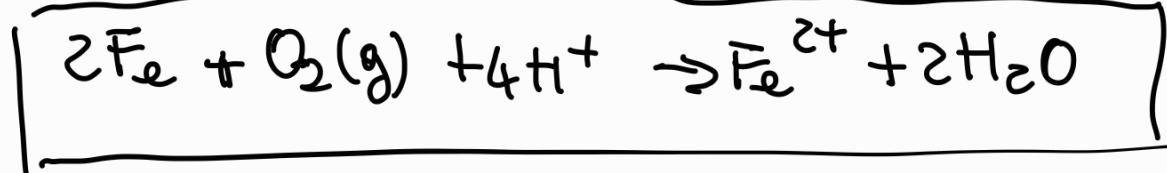
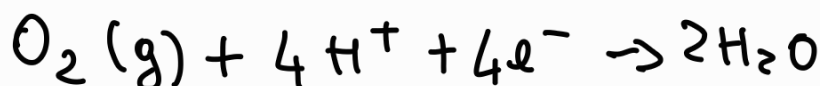
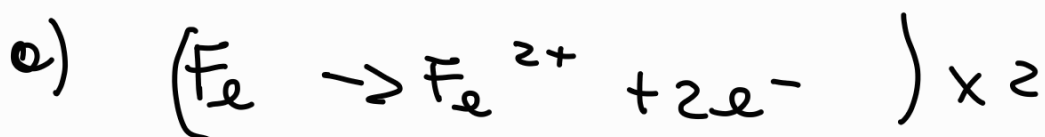


①

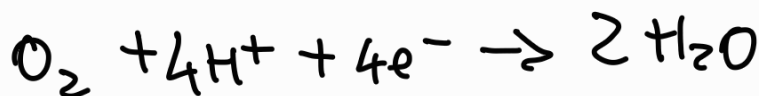


O_2 OVVIAMENTE $\equiv$ OSSIDANTE PIÙ FORTE E_0 PIÙ GRANDE



b)

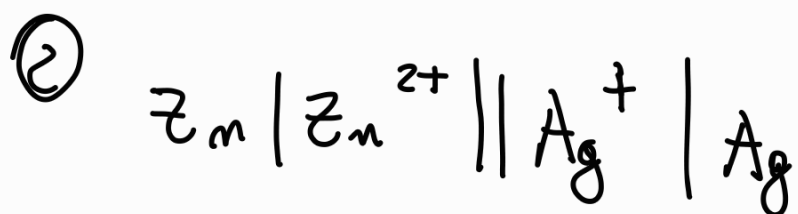
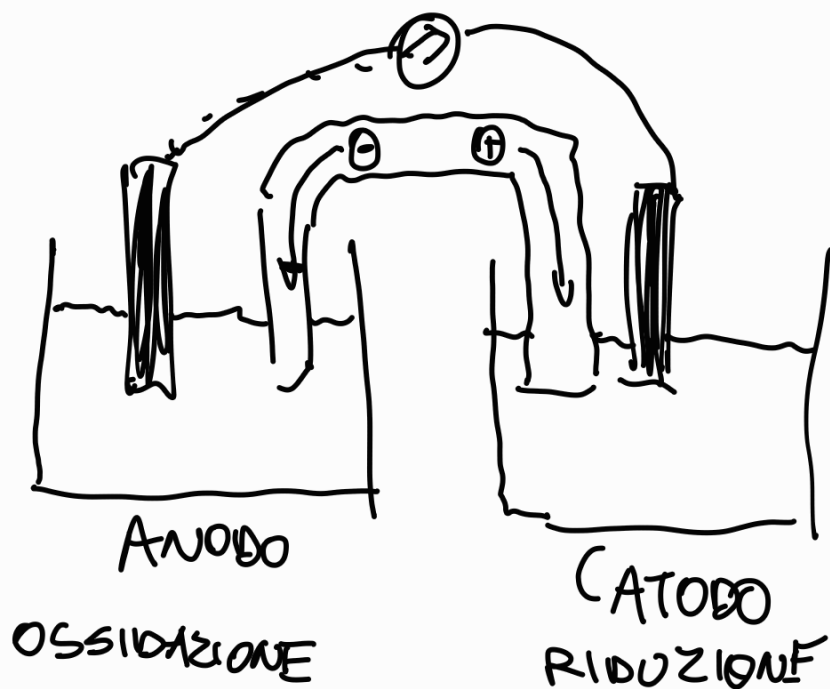
CATODO $\oplus$ RIDUZIONE



ANODO $\ominus$ OSSIDAZIONE



c) NEL CIRCUITO ESTERNO GLI ELETTRONI
PASSANO DA ANODO A CATODO,
NEL PONTE SALINO GLI IONI
NEGATIVI SI MUOVONO DALLA SEMICELLA
DEL CATODO ALLA SEMICELLA
DELL' ANODO



Ag OSSIDANTE PIU' FORTE



IN CONDIZIONI STANDARD

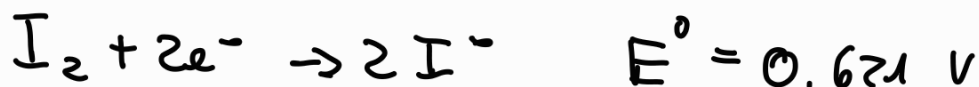
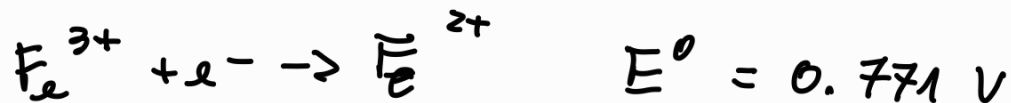
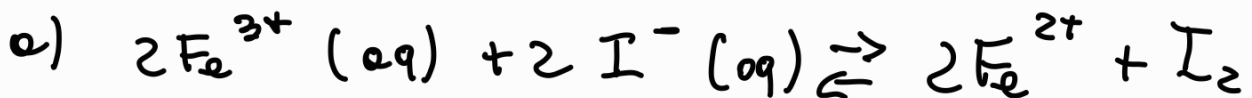
$$\begin{aligned} E^\circ_{\text{CELLA}} &= E^\circ_{\text{CATODO}} - E^\circ_{\text{ANODO}} \\ &= 0.799 + 0.763 \\ &= 1.562 \text{ V} \end{aligned}$$

$$E = E^\circ - \frac{RT}{nF} \cdot \ln Q$$

$$Q = \frac{[\text{Zn}^{2+}]}{[\text{Ag}^+]^2} = \frac{0.010}{(0.25)^2} = 0.16$$

$$E = \underline{1.58 \text{ V}}$$

③

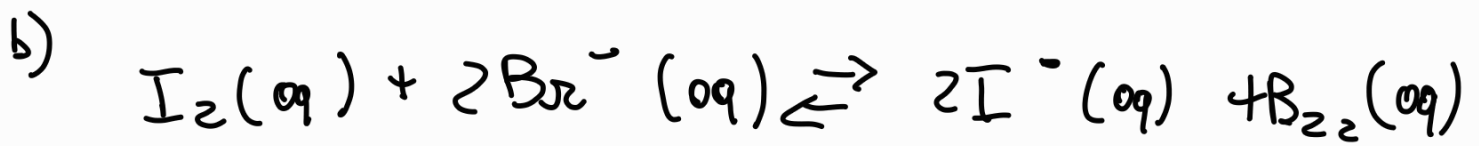


$$E^\circ = 0.771 - 0.621 = 0.15 \text{ V}$$

$$\Delta G_0 = -nF E^0 = -2 \cdot 96500 \cdot 0.15$$

$$= \underline{\underline{-29 \text{ kJ}}}$$

$$K = e^{-\Delta G^0 / RT} = \underline{\underline{1.2 \cdot 10^5}}$$



$$E^0 = 0.621 - 1.08 = -0.459 \text{ V}$$

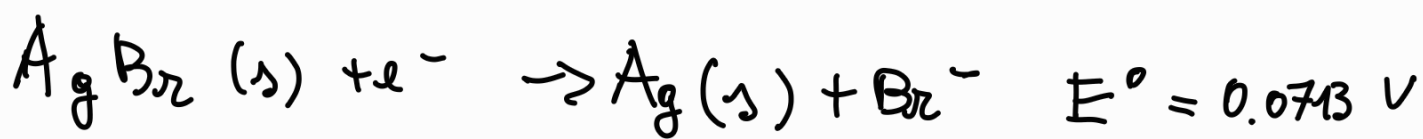
Red. I_2 ox. Br^-

$$\Delta G_0 = -nF E^0 = -2 \cdot 96500 \cdot (-0.459)$$

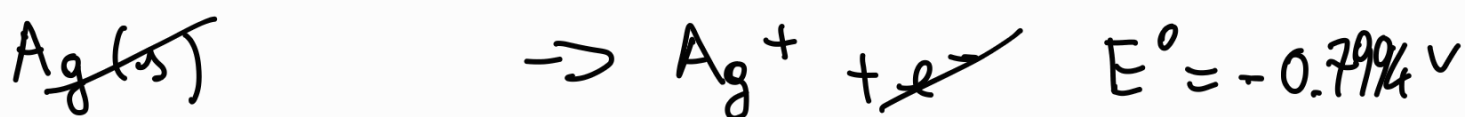
$$= \underline{\underline{88.6 \text{ kJ}}}$$

$$K = e^{-\Delta G_0 / RT} = \underline{\underline{3 \cdot 10^{-16}}}$$





ADDESSO SE SOMMA LA PRIMA ALLA SECONDA
INVERTITA:



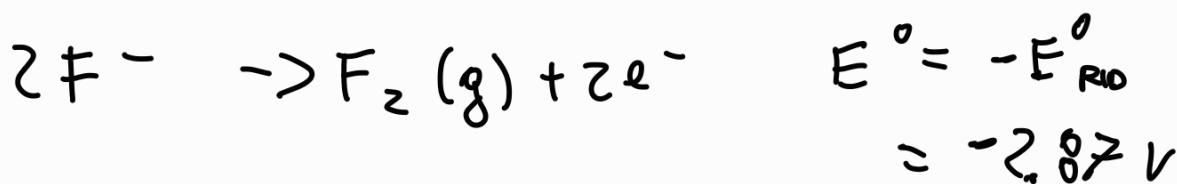
$$\Delta G^\circ = -nFE^\circ = +F \cdot 0.72806$$

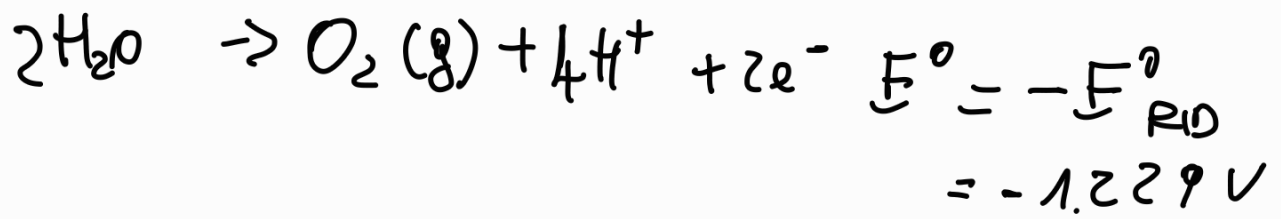
$$= 70.26 \text{ kJ}$$

$$K_{DS} = e^{-\Delta G^\circ / RT} = e^{-70.26 \cdot 10^3 / R \cdot 298}$$

$$= \underline{\underline{4.8 \cdot 10^{-13}}}$$

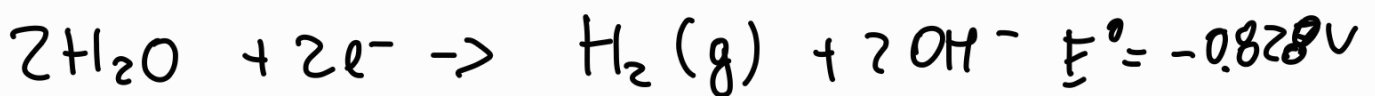
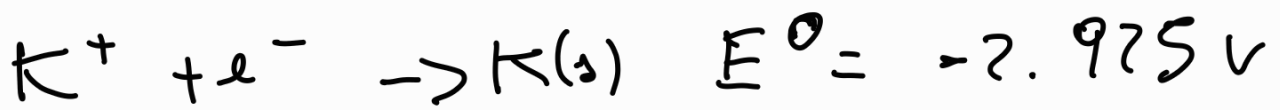
⑤ ANODO : OSSIDAZIONE PUO' AVVENIRE





QUELLO CON E° MAGGIORE E' QUELLO
PIU' FAVORITO QUINDI OSSIDAZIONE H_2O
SI FORMA O_2

CATODO : RIDUZIONE



ANCHE QUI COME SOPRA QUELLO CON
 E° MAGGIORE SI FORMA H_2

⑥

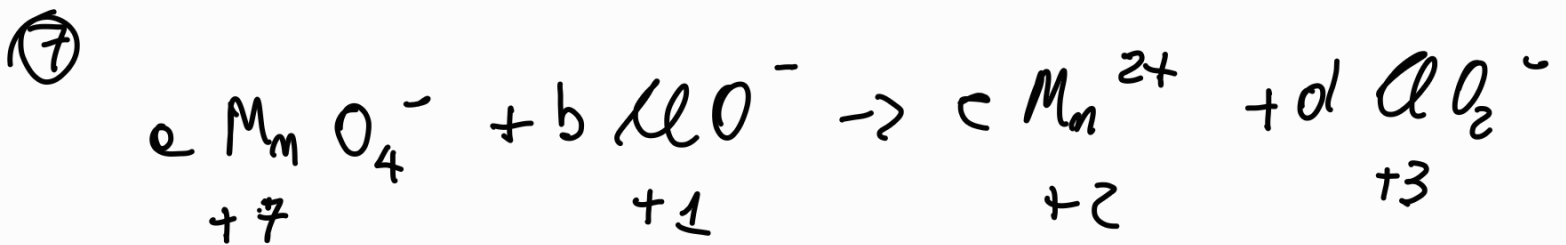
CATODO RIDUZIONE



$$i \cdot t = 2 \cdot F \cdot n_{\text{Cu}}$$

$$n_{\text{Cu}} = 0.50 / 63.55 = 0.0079 \text{ mol}$$

$$\begin{aligned}
 t &= \frac{z \cdot F \cdot m_{Cu}}{i} \\
 &= \frac{2 \cdot 96500 \cdot 0.0049}{0.66} \\
 &= 2300 \text{ s} = 38.33 \text{ minuti}
 \end{aligned}$$



↓ CARICA



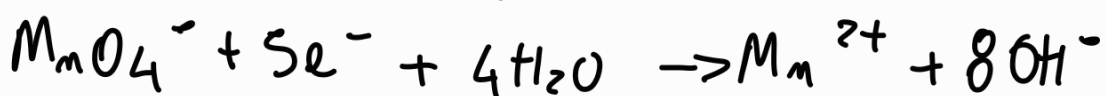
↓ MASSA



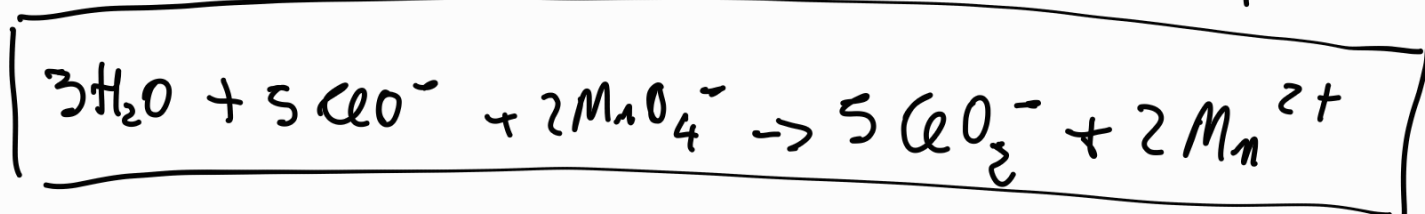
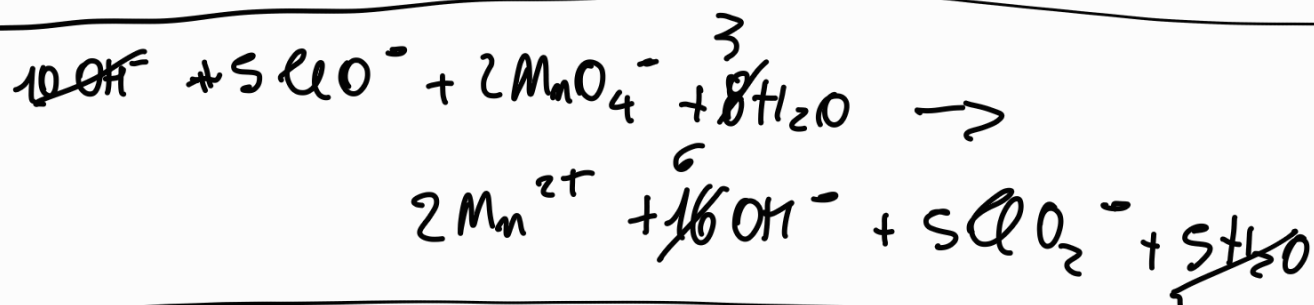
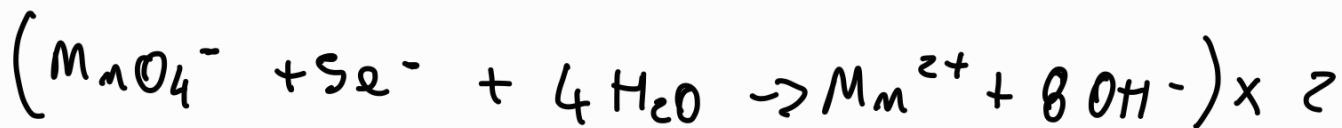
↓ CARICA



↓ MASSA



SOMMA LE DUE :



$$a=2 \quad b=5 \quad c=2 \quad d=5$$

C

⑧

D

PONTE SALINO

⑨

ANODO OSSIDAZIONE



$$Q = i \cdot t = 1.2 \cdot (35 \cdot 60) = 2520 \text{ C}$$

$$n_{e^-} = Q/F = 2520 / 96500 = 0.026 \text{ mol}$$

$$n_{Cl_2} = n_{e^-} / 2 = 0.026 / 2 = 0.013 \text{ mol}$$

$$V = \frac{n_{O_2} \cdot R \cdot T}{P} = \underline{\underline{0.32 L}}$$

A

10

ANODO OSSIDAZIONE

L'UNICO NEGATIVO QUINDI



B