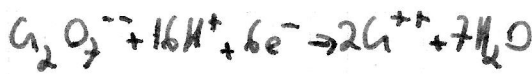
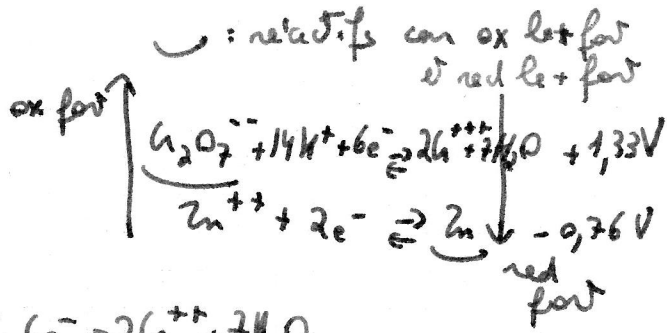
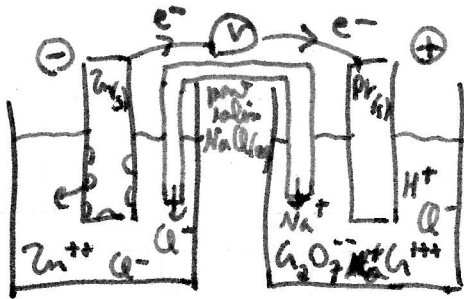


1



oxydation
anode
⊖

réduction
cathode
⊕

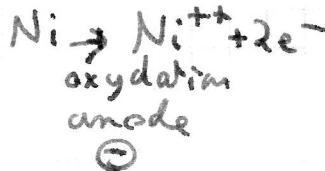
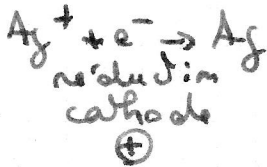
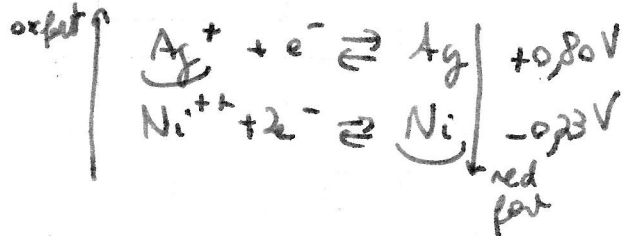
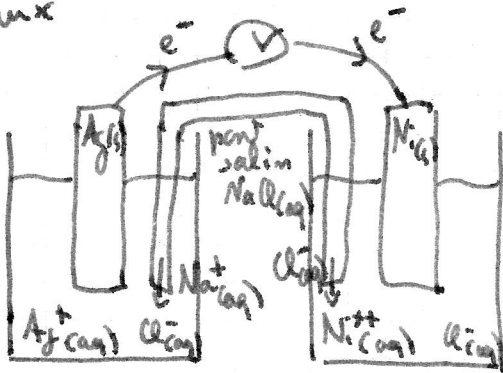
$$\Delta E^\circ = E_1^\circ - E_2^\circ = 1,33 - (-0,76) = 2,09\text{V}$$

a) faux

b) vrai car couple situé au dessus de l'autre dans table redox.

c) faux

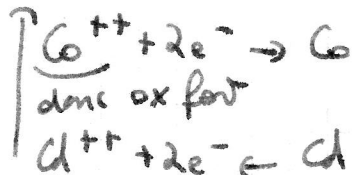
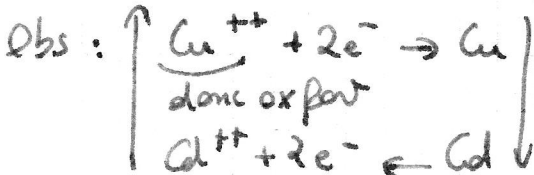
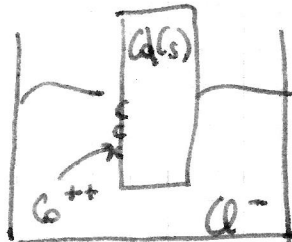
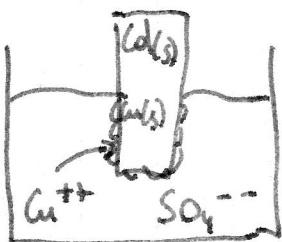
2



$$\Delta E^\circ = E_1^\circ - E_2^\circ = +0,80 - (-0,23) = 1,03\text{V}$$

b) ✓

3



D'après les 4 exp.

ox fort ↑

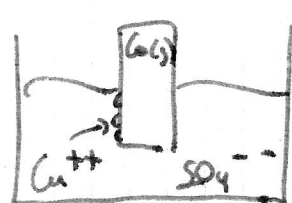
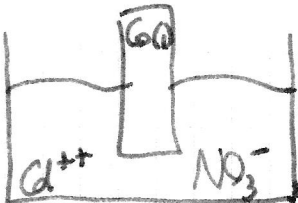
Cu²⁺ / Cu + fort que Cd²⁺ et que Co²⁺

Co²⁺ / Co + fort que Cd²⁺ mais - fort que Cd²⁺

oxydation le - fort

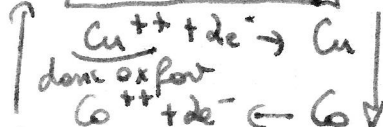
red le + fort

+ fort que Cu et Co



Obs :

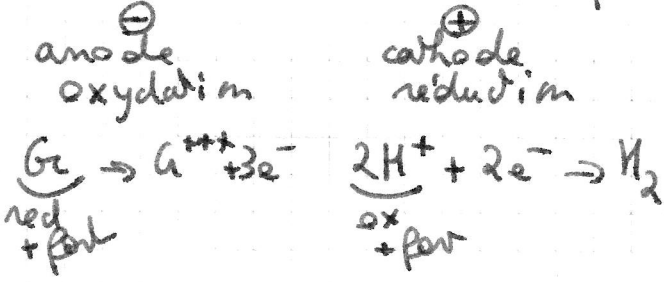
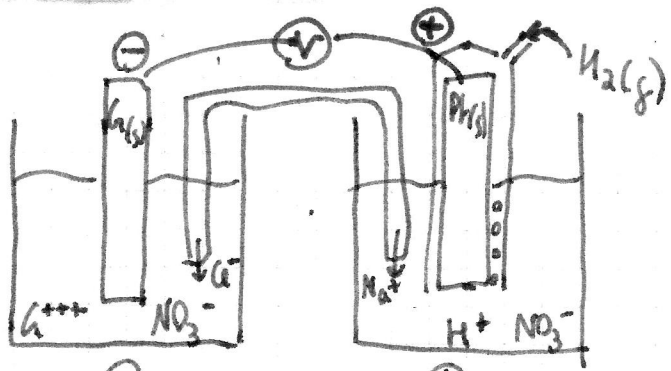
Cd²⁺ X → donc ox - fort



Eq. Redox globales uniques

$$\begin{array}{l} \text{Cu}^{2+} + \text{Cd} \rightarrow \text{Cd}^{2+} + \text{Cu} \\ \text{Co}^{2+} + \text{Cd} \rightarrow \text{Cd}^{2+} + \text{Co} \\ \text{Cu}^{2+} + \text{Co} \rightleftharpoons \text{Co}^{2+} + \text{Cu} \end{array}$$

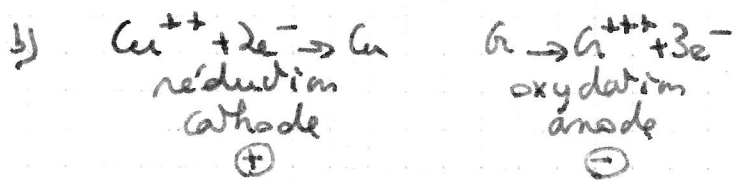
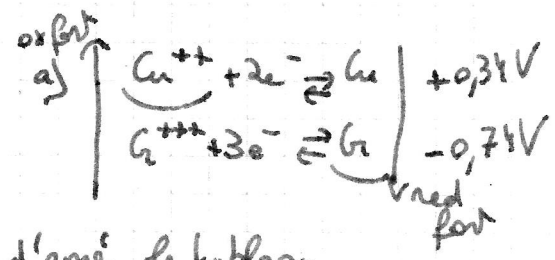
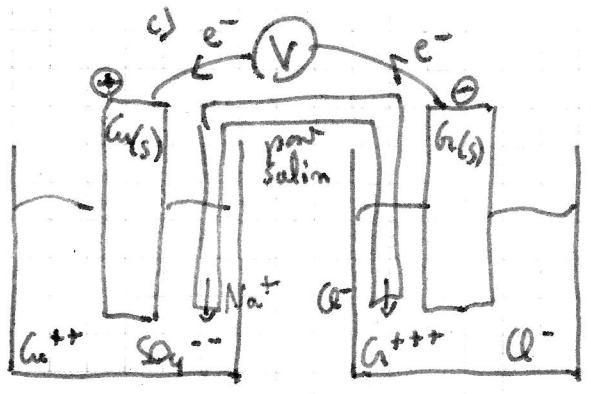
4



↑ H^+ / H_2 | 0V
 Zn^{++} / Zn | -0,74V
 signe de l'électrode du couple dans une pile face au couple de référence.

$E^\circ_{Zn^{++}/Zn}$ négatif car Zn a - tendance à se réduire que H^+ , l'ox de référence.

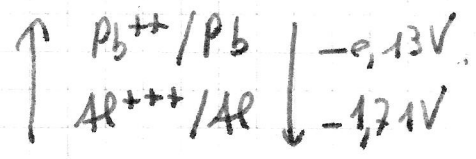
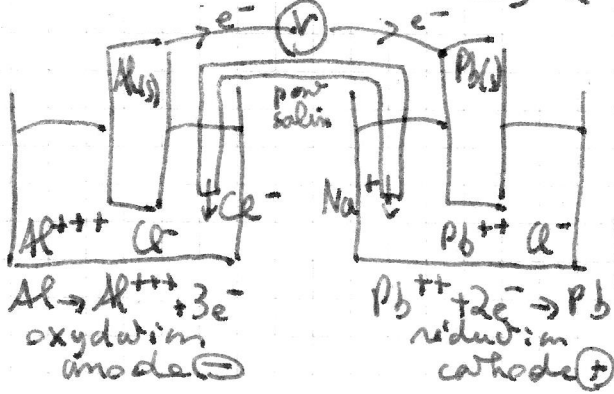
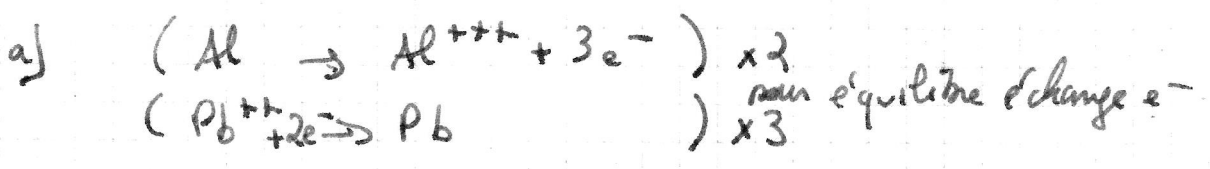
5



d'après le tableau des E° , Cu^{++} est un ox + fort que Zn^{++} .
 + haut dans tableau c'est lui qui va se réduire.

$$\Delta E^\circ = E^\circ_1 - E^\circ_2 = +0,34 - (-0,74) = 1,08V$$

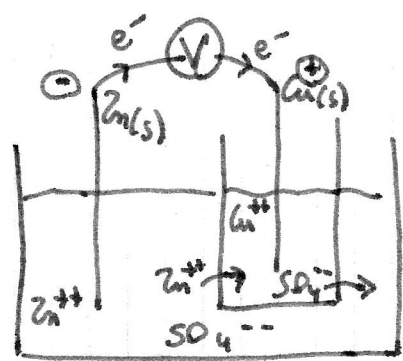
6



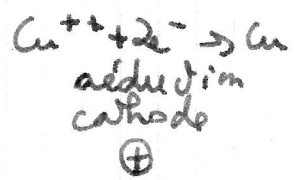
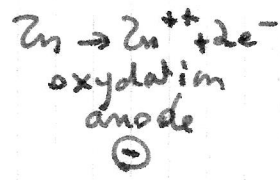
$$\Delta E^\circ = E^\circ_1 - E^\circ_2 = -0,13 - (-1,71) = 1,58V$$



7

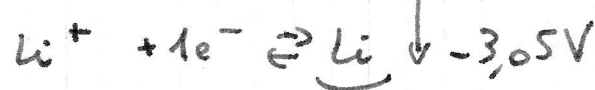
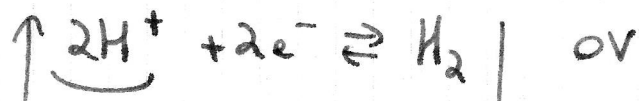


Zn^{2+} rentre dans le compartiment du vase poreux pour compenser la diminution de charges \oplus de la réduction du Cu^{2+}

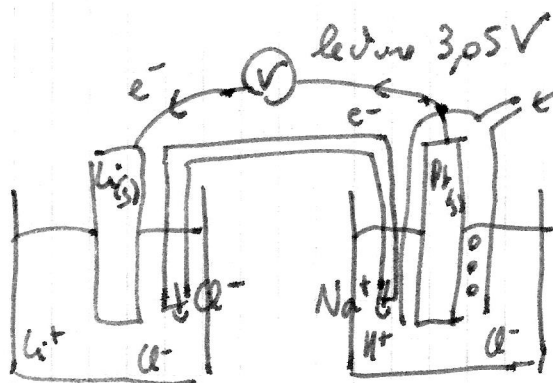


SO_4^{2-} sort du vase vers le + grand compartiment pour compenser l'augmentation des charges \oplus de l'oxydation du Zn

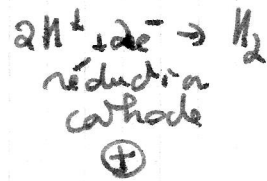
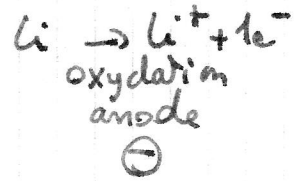
8



Pile
 Li^+/Li
 H^+/H_2



le Li est 3,05V la \oplus ne change pas seule la convention du 0V change



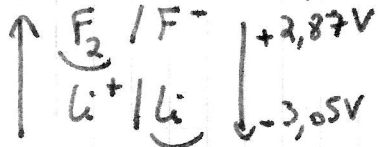
si prise comme réf 0V

alors $H^+/H_2 = +3,05V$

signe de l'électrode face à la réf.

Pile
 Li^+/Li
 F_2/F^-

$\Delta E^0 = E_1^0 - E_2^0 = +2,87 - (-3,05) = 5,92V$



si Li mis comme réf 0V

alors $F_2 / F^- = +5,92V$

signe de l'électrode face à la réf.

