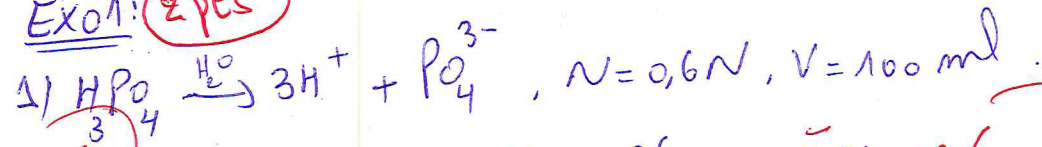


exercice up + exercice all / avr 15

EX01: 2pts



$N = z \times C_M \Rightarrow C_M = \frac{N}{z} = \frac{0,6}{3} = 0,2M$ (0,25)

$C_M = \frac{m_{st}}{M \times V_{sol}} \Rightarrow m_{st} = C_M \times M \times V = 0,2 \times 98 \times 100 \times 10^{-3} = 1,96\text{ g}$ (0,25)

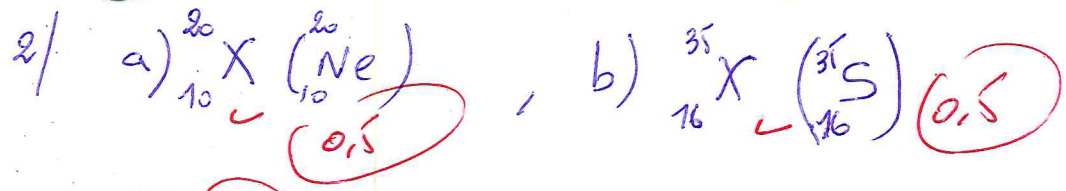
2/ $C_M = \frac{m_{st}}{M \times V_{sol}} = \frac{3}{40 \times 250 \times 10^{-3}} = 0,3M$ (0,25)

$C_i \times V_i = C_f \times V_f \Rightarrow V_i = \frac{C_f \times V_f}{C_i} = \frac{0,1 \times 50}{0,3} = 16,66\text{ ml}$ (0,25)

EX02: 3pts

1/ a/ $\lambda = \frac{\ln 2}{T} = \frac{\ln 2}{12,7 \times 24 \times 3600} = 6,32 \times 10^{-7} \text{ s}^{-1}$ (0,5)

b/ $a_0 = \lambda \times N_0 \Rightarrow N_0 = \frac{a_0}{\lambda} = \frac{2 \times 10^8}{6,32 \times 10^{-7}} = 3,16 \times 10^{14}$ noyaux (0,5)

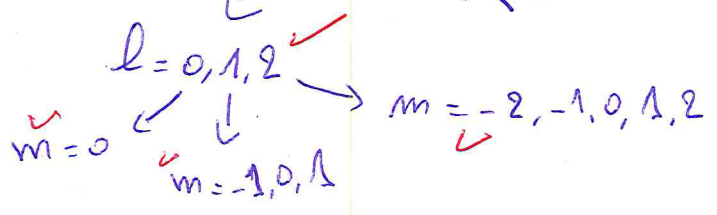


EX03: 10pts

1/ a) $n=3$, $l=2$, $m=1$ ($-l \leq m \leq +l$) possible (0,5)

($0 \leq l \leq n-1$) $l=0,1,2$ $m=-2,-1,0,1,2$

b) $n=3$, $m=3$, $s=+\frac{1}{2} \Rightarrow$ impossible (0,5)



élément	configuration électronique	période	groupe
$_{29}\text{Cu}$	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^1 3d^{10}$	4	I B $\Rightarrow \text{Cu}$
$_{35}\text{Br}$	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^5$	4	VII A $\Rightarrow \text{Br}$
$_{42}\text{Mo}$	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^1 4d^5$	5	VI B $\Rightarrow \text{Mo}$

Electronegativité (EN):

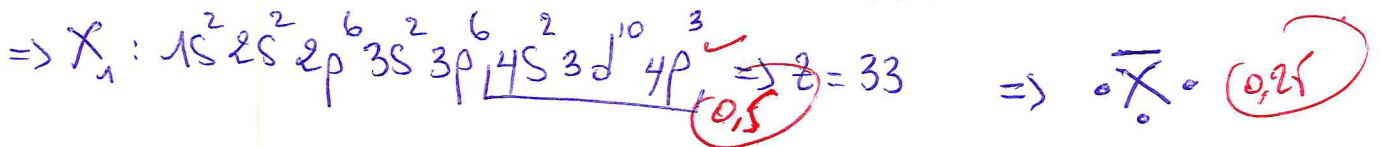
EN _{Br}	EN _{Cu}	EN _{Mo}
2,8	1,9	1,8

↑ EN ↑

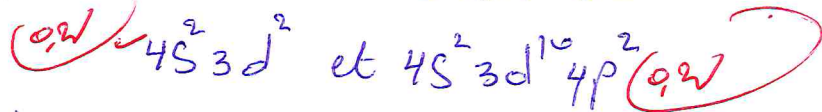
3/ X_1 : élément de la famille de l'azote $\Rightarrow ns^2 np^3$



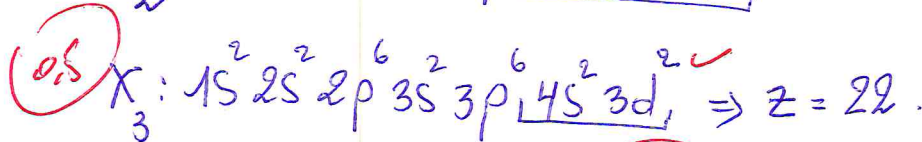
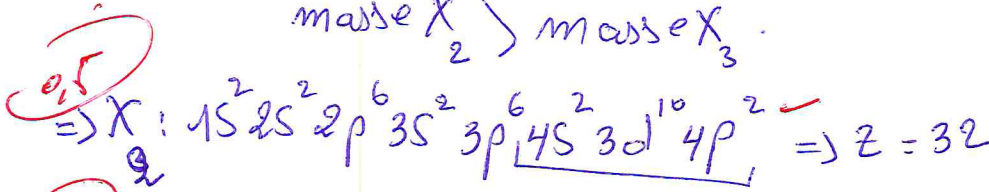
3^{ème} élément $\Rightarrow n=4$ la couche externe



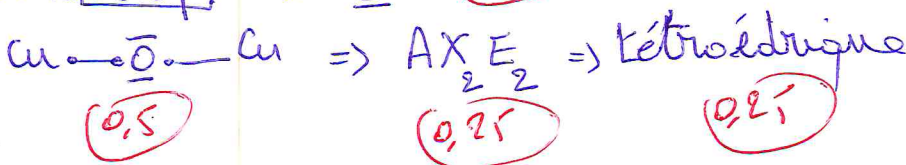
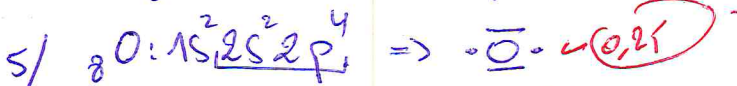
X_2 et X_3 : période 4 $\Rightarrow n=4$ et 4 électrons de valence \Rightarrow



masse $X_2 >$ masse X_3



$\Rightarrow X_2$ et $X_3: \bar{X}$



EX04: (5pt)

• Alcanes: sont des hydrocarbures saturés (0,5)

• Cyclynes: sont des hydrocarbures cyclique insaturés, portent au moins une triple liaison ($C \equiv C$). (0,5)

2.5. Hydrocarbures aromatique: sont des molécules comportent un ou plusieurs cycles benzénique

2/ a/ $C_{10}H_8$ (0,5) / (b) $C_{12}H_{24}$ (0,5) / (c) C_5H_6 (0,5)

a/ Naphthalène (0,5)

b/ 1-éthyl-3-tert-butyl cyclohexane (0,25) (0,25) (0,5)

c/ pent-1-én-4-yne (0,5)