

AL13

	1s	2s	2p	3s	3p
1s	0.31				
2s	0.85	0.35			
2p	0.85	0.35	0.35		
3s	1	0.85	0.85	0.35	
3p	1	0.85	0.85	0.35	0.35
Qel	2				
Nel	1	2	2	3	3

EAL: 6568,5 eV

3) 3p: $13 - (2 \times 1) - (8 \times 0.85) - (2 \times 0.85) = 3.5$
 $= 4.2$
 3s: $13 - (2 \times 1) - (8 \times 0.85) = 8.85; 9.2; 9.55; 9.9; 10.25; 10.6$

2) 2p: $13 - (2 \times 0.85) - (7 \times 0.35) = 11.3$
 2s: $13 - (2 \times 0.85) = 12.69$

1) 1s: $13 - (1 \times 0.31) = 12.69$

3p $- \frac{13.6 \times 3.5^2}{3^2} = 18.511 \times 3 (1p+2s) = 18.511$ 1^{ere} ionisation
3s $\left[\frac{13.6 \times 4.2^2}{3^2} = 26.656 \text{ eV } 3^{\text{eme}}$
 $= 10.366 \text{ eV } 2^{\text{eme}}$

2p $\frac{13.6 \times 8.85^2}{2^2} = 266.2965 \text{ eV} \times 8 (6p+2s) = 2130.372 \text{ eV}$ énergie de la couche L
 \downarrow
 $\frac{13.6 \times 9.2^2}{2^2} = 287.776 \times 7 = 2014.432 \rightarrow = 115.94 \text{ eV } 4^{\text{eme}}$
 $\frac{13.6 \times 9.55^2}{2^2} = 310.0885 \times 6 = 1860.531 \rightarrow = 153.901 \text{ eV } 5^{\text{eme}}$
 $\frac{13.6 \times 9.9^2}{2^2} = \dots \times 5 = 1666.17 \rightarrow = 194.361 \text{ eV } 6^{\text{eme}}$
 $\frac{13.6 \times 10.25^2}{2^2} = \dots \times 4 = 1428.85 \rightarrow = 237.32 \text{ eV } 7^{\text{eme}}$
 $\frac{13.6 \times 10.6^2}{2^2} = 382.024 \times 3 = 1146.072 \rightarrow = 282.778 \text{ eV } 8^{\text{eme}}$
2s $\frac{13.6 \times 11.3^2}{2^2} = 434.146 \text{ eV} \rightarrow = 382.024 \text{ eV } 9^{\text{eme}}$
 $\rightarrow = 434.146 \text{ eV } 11^{\text{eme}}$
 $\rightarrow = 329.902 \text{ eV } 10^{\text{eme}}$

1s $\frac{13.605 \times 12.69^2}{1^2} = 2190.896 \times 2 = 4380.182$ énergie de la couche K
 $\rightarrow = 2299.24 \text{ eV } 13^{\text{eme}}$
 $\left[\frac{13.605 \times 13^2}{1^2} = 2932.05 \rightarrow = 2082.54 \text{ eV } 12^{\text{eme}}$
 $4380.182 - 2299.24$