

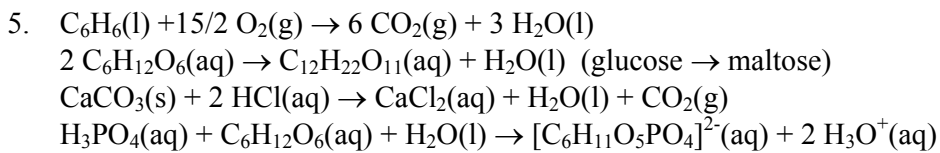
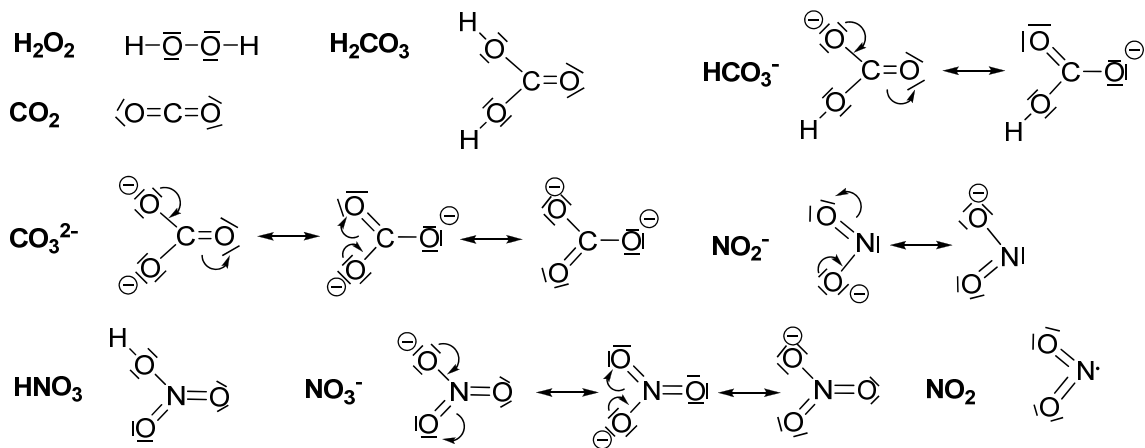
Chimie générale I pour sciences de la Vie

Réponses série 2, 2009-2010

Version du 01/10/2010

- $n = 3$
 $\ell = 0$ 1 orbitale 3s 3s $4\ell + 2 = 2 e^-$
 $\ell = 1$ 3 orbitales p $3p_x, 3p_y, 3p_z$ $6 e^-$
 $\ell = 2$ 5 orbitales 3d $3d_{xy}, 3d_{xz}, 3d_{yz}, 3d_{x^2-y^2}, 3d_{z^2}$ $10 e^-$
- N^{3-} $Z = 10$ $1s^2 2s^2 2p^6$ Ca^{2+} $Z = 18$ $1s^2 2s^2 2p^6 3s^2 3p^6$ ou [Ar]
 O^{2-} $Z = 10$ $1s^2 2s^2 2p^6$ Fe^{3+} $Z = 23$ $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5$ ou [Ar]3d⁵
- $\lambda = 250 \text{ nm}$ $E = 40000 \text{ cm}^{-1} \rightarrow \text{UV}$ $\lambda = 650 \text{ nm}$ $E = 15385 \text{ cm}^{-1} \rightarrow \text{rouge}$
 $\lambda = 500 \text{ nm}$ $E = 20000 \text{ cm}^{-1} \rightarrow \text{vert}$ $\lambda = 800 \text{ nm}$ $E = 12500 \text{ cm}^{-1} \rightarrow \text{IR}$





6. $n_{\text{NaOH}} = 20/40 = 0,50 \text{ mol}$
 $n_{\text{CO}_2} = 1/2 n_{\text{NaOH}} = 0,25 \text{ mol} \rightarrow V = 0,25 \times 22,4 = 5,6 \text{ L}$

QCM A

C

QCM K'

+ - - +