

LC17 : Solides cristallins

Réseau et noeuds

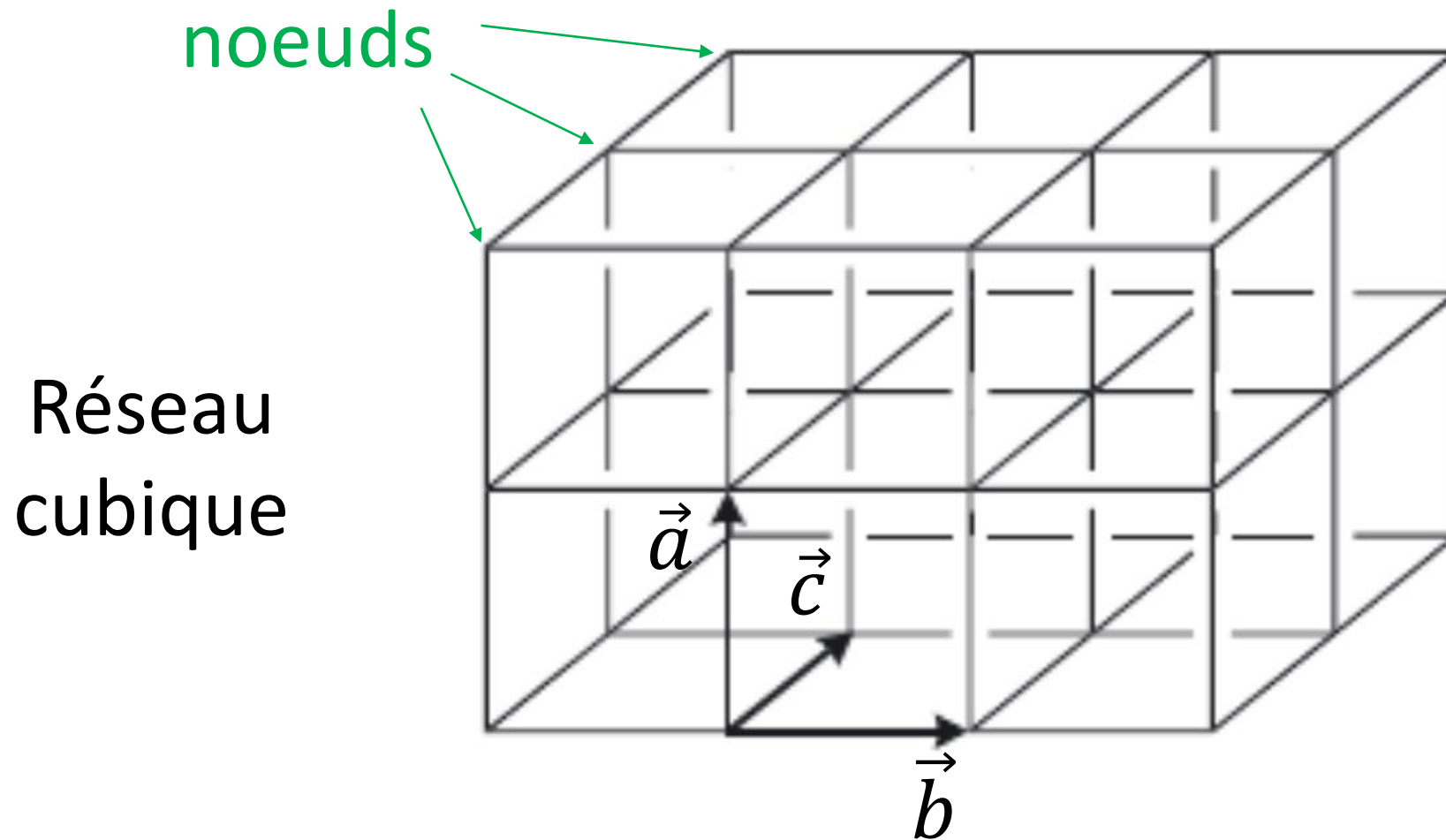
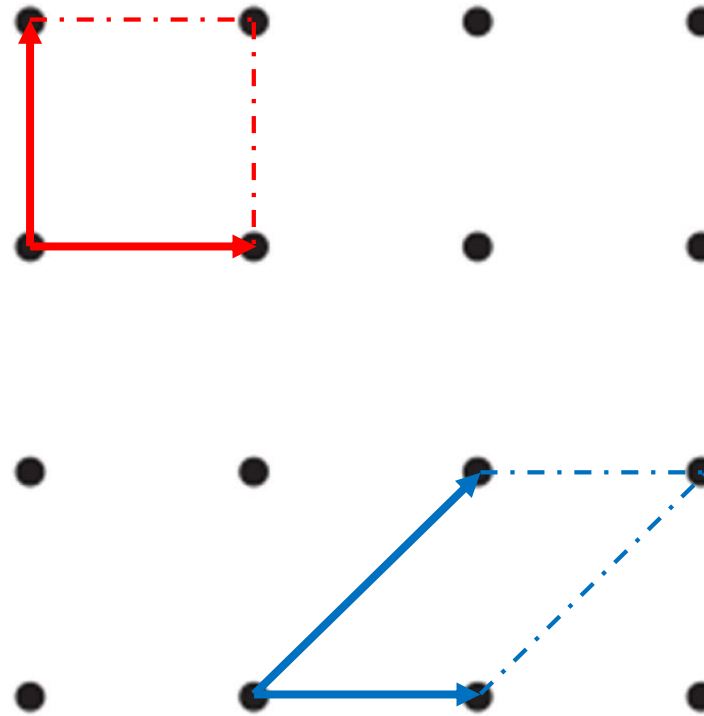


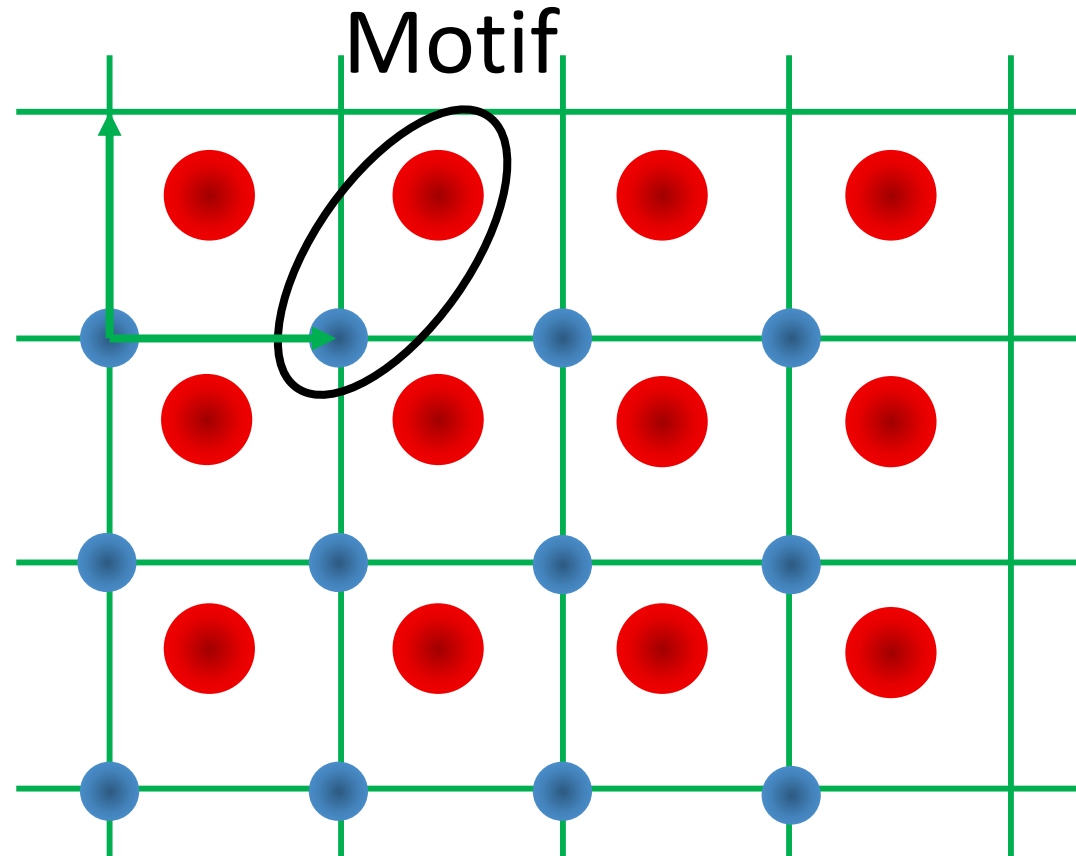
Illustration du concept de maille (2D)

Deux exemples de mailles
pour un réseau carré

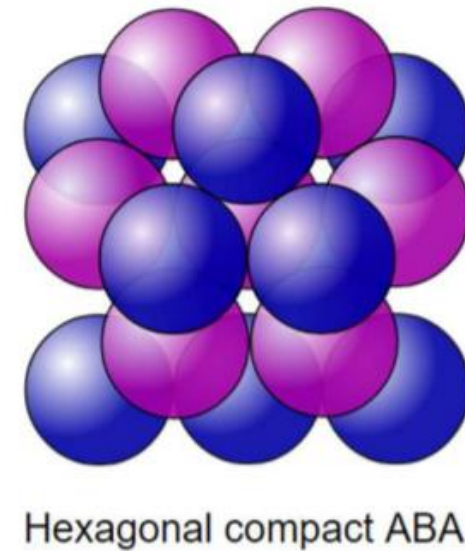
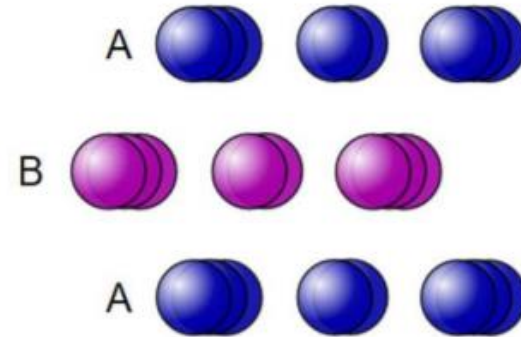
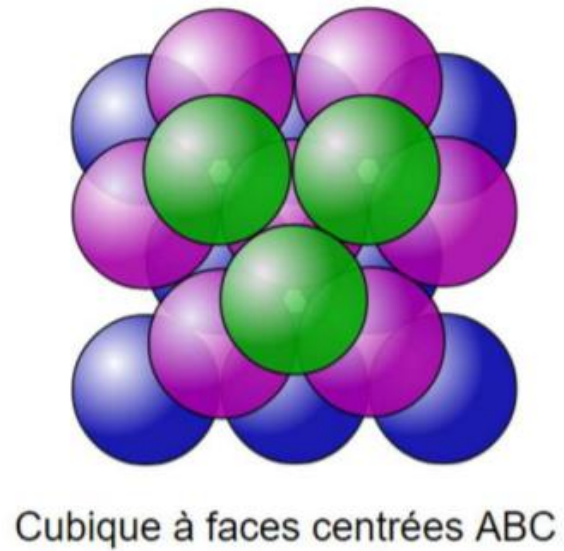
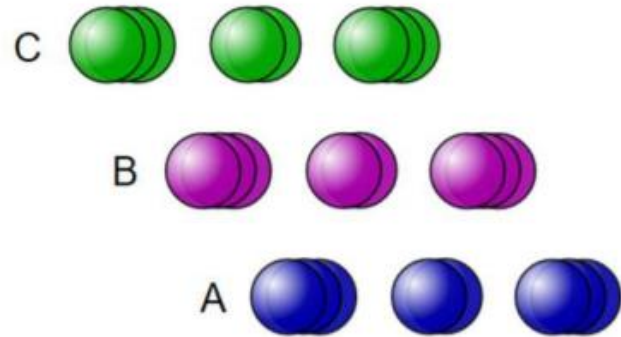


Réseau + motif = cristal

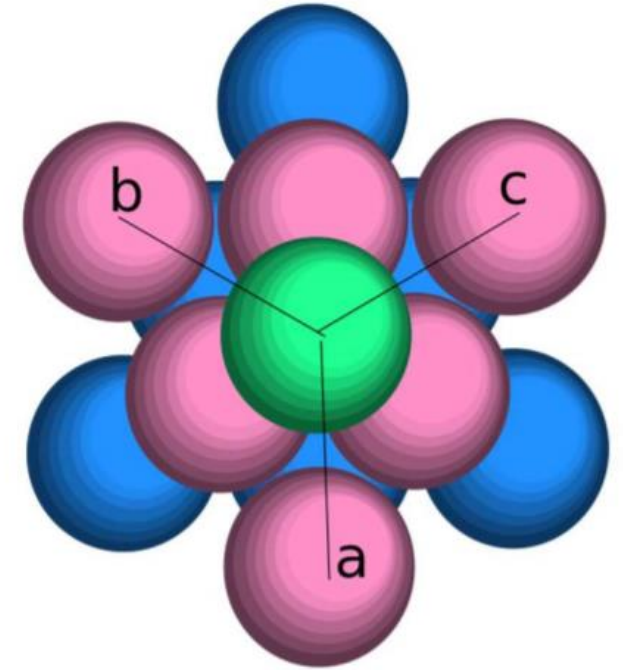
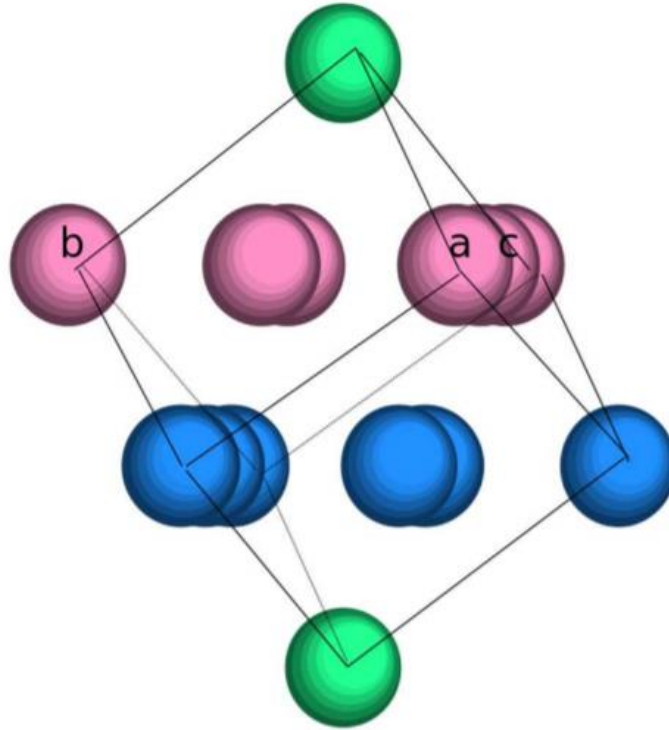
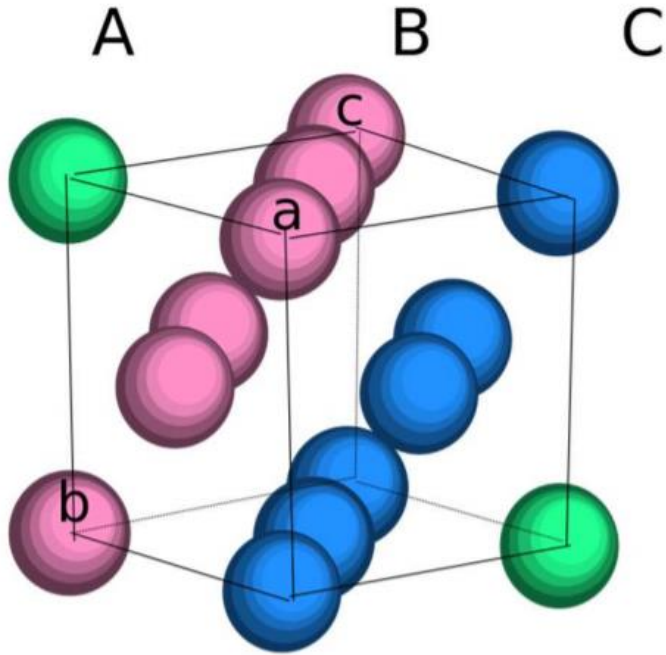
Réseau
carré



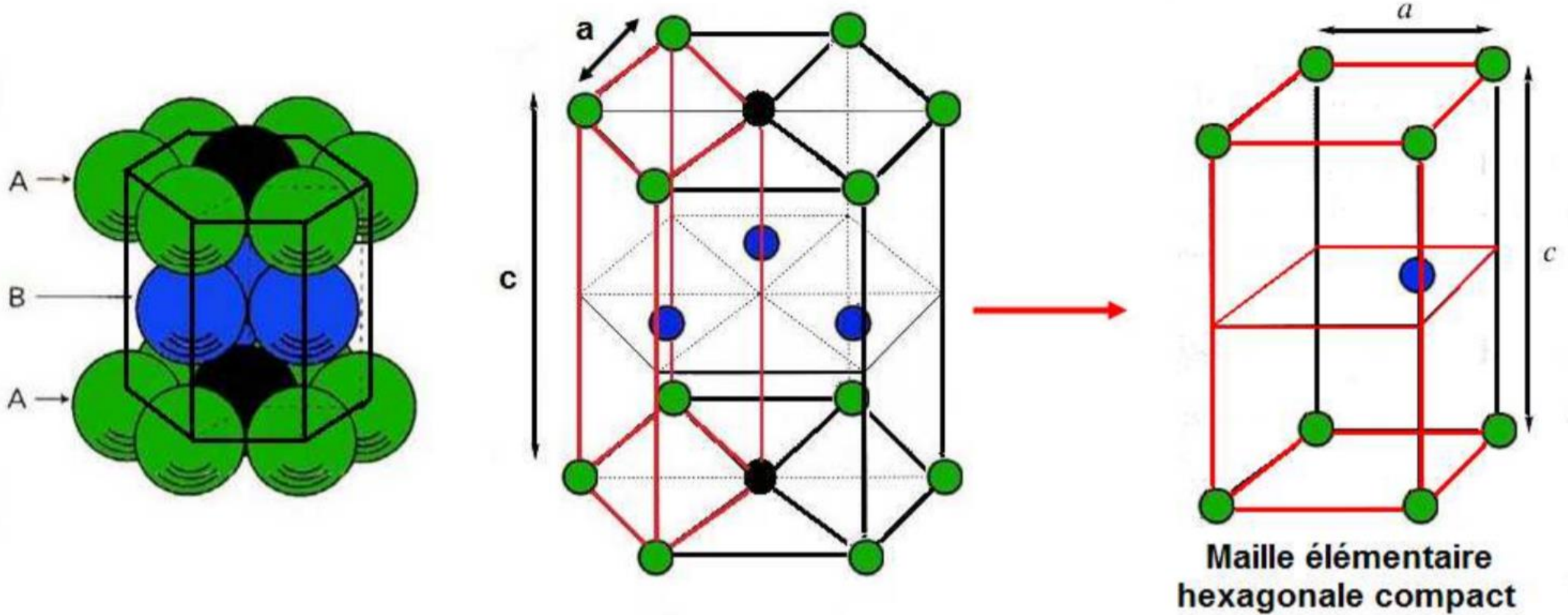
Empilements compacts



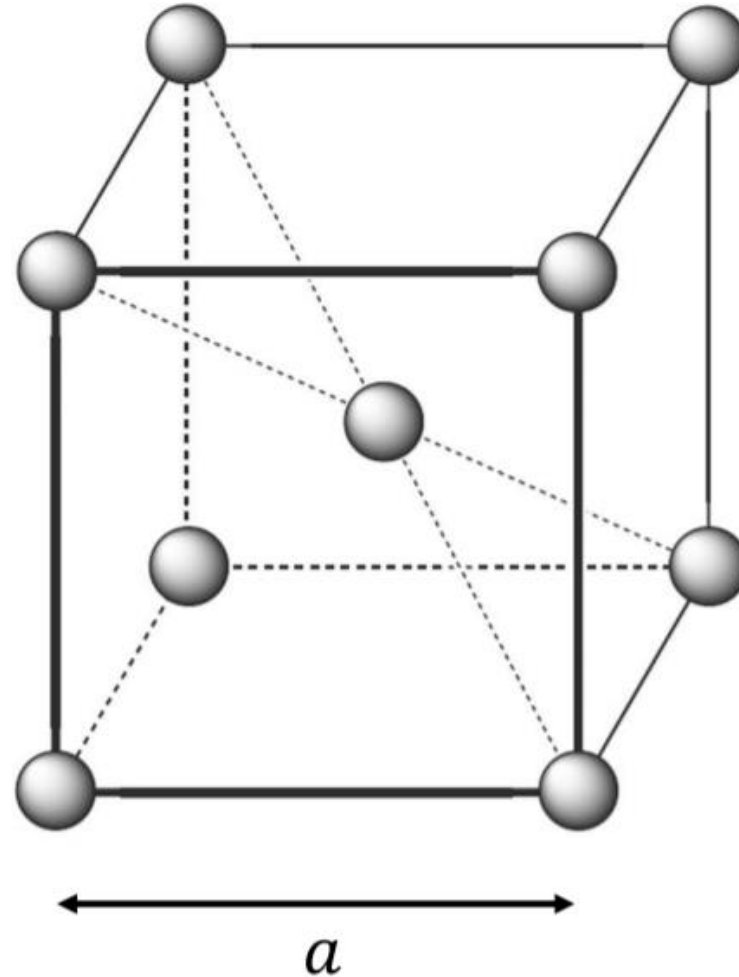
Structure cubique face centrée



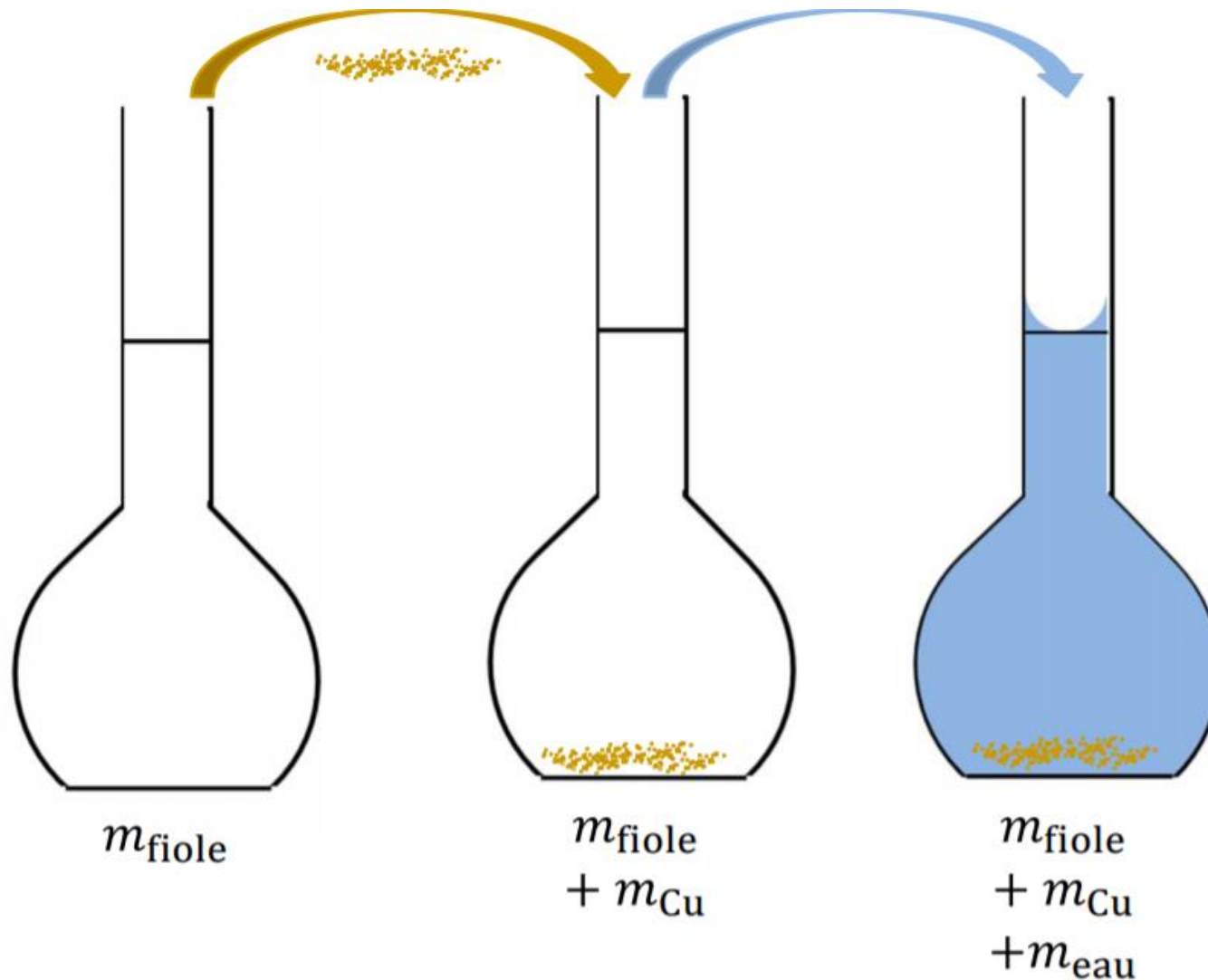
Structure hexagonale compacte



Exemple d'empilement non compact : la structure cubique centrée



Mesure du paramètre de maille du cuivre

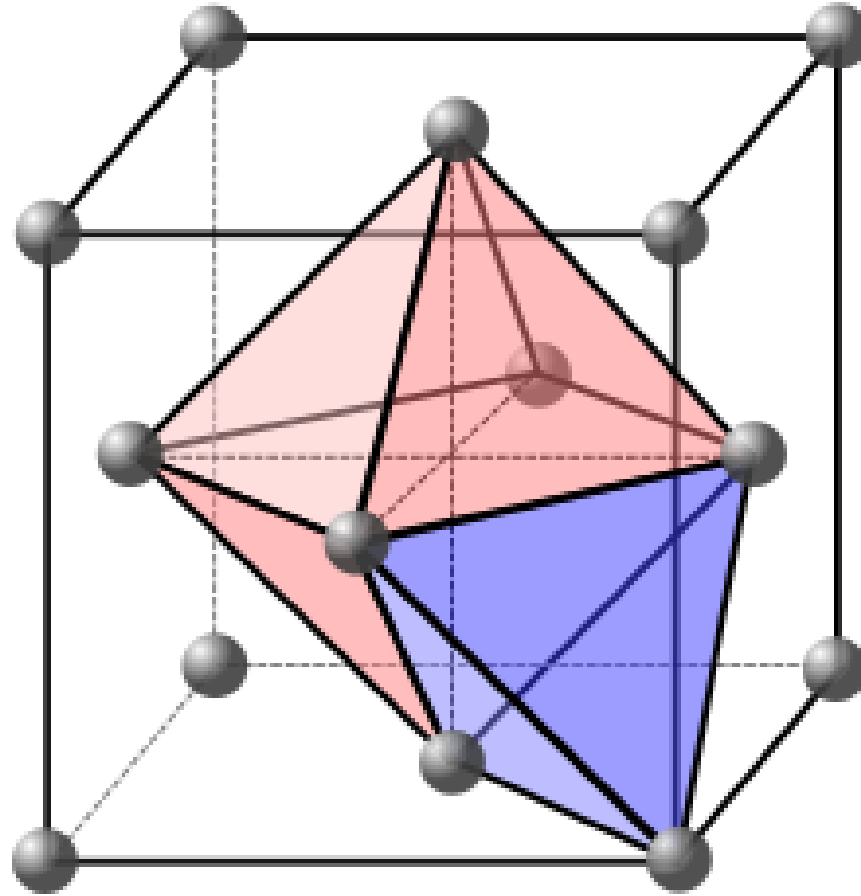


$$V_{\text{Cu}} = V_{\text{fiole}} - \frac{m_{\text{eau}}}{\rho_{\text{eau}}}$$

$$\rho_{\text{Cu}} = \frac{m_{\text{Cu}}}{V_{\text{Cu}}}$$

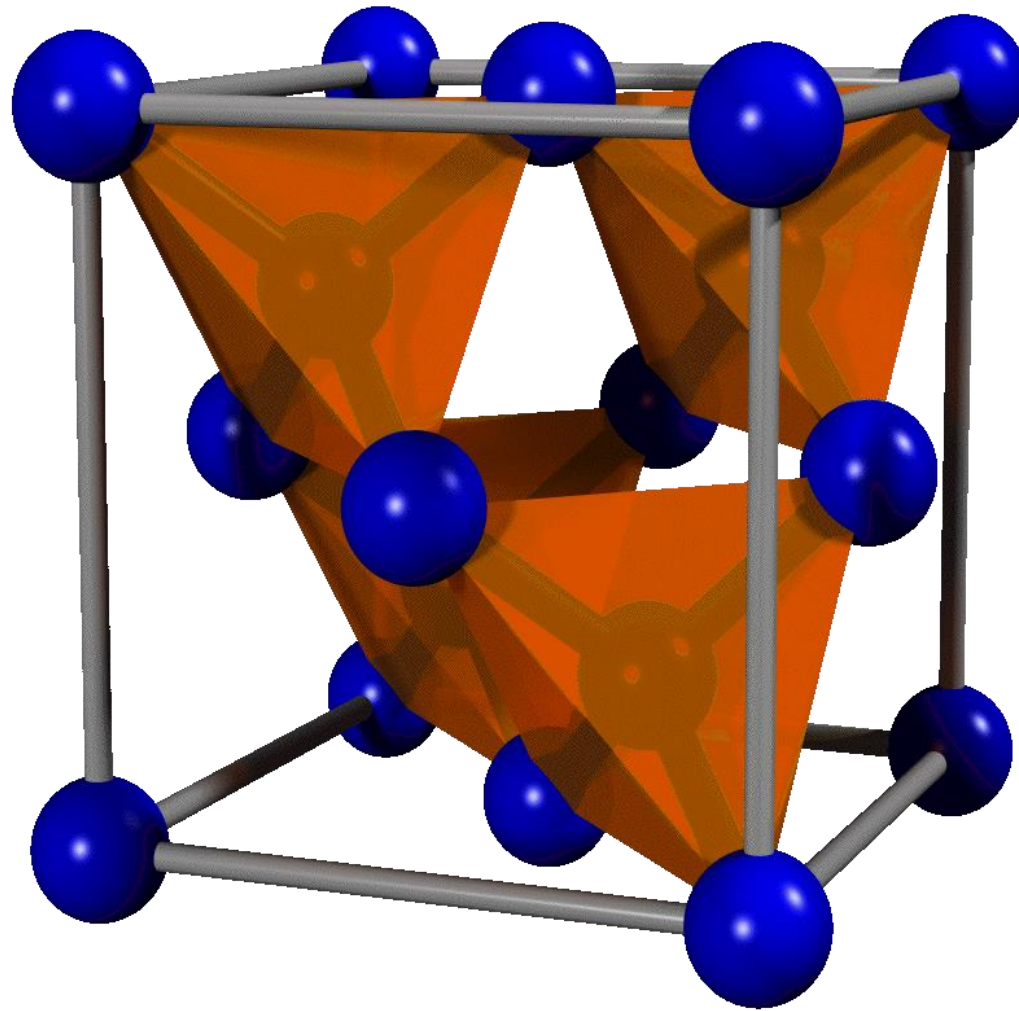
Sites tétraédriques et octaédriques

Site
octaédrique

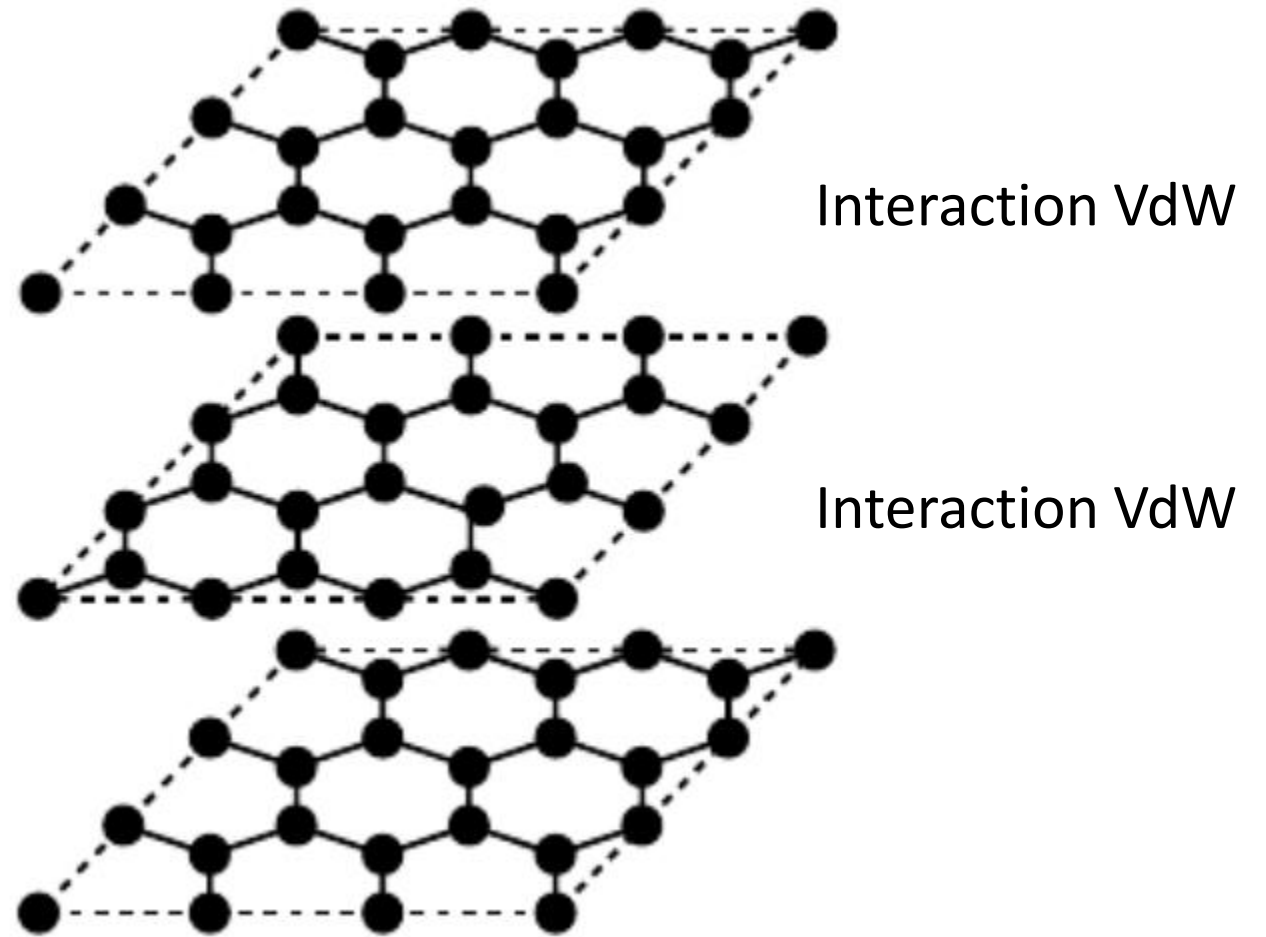
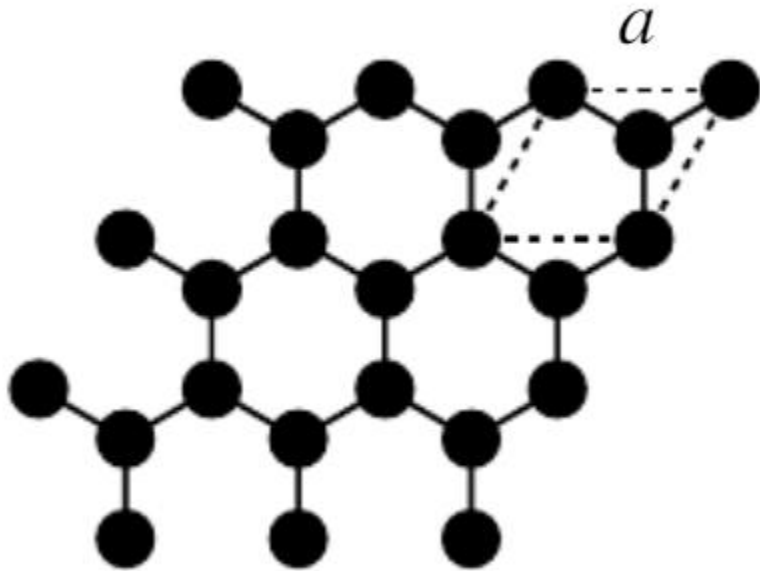


Site
tétraédrique

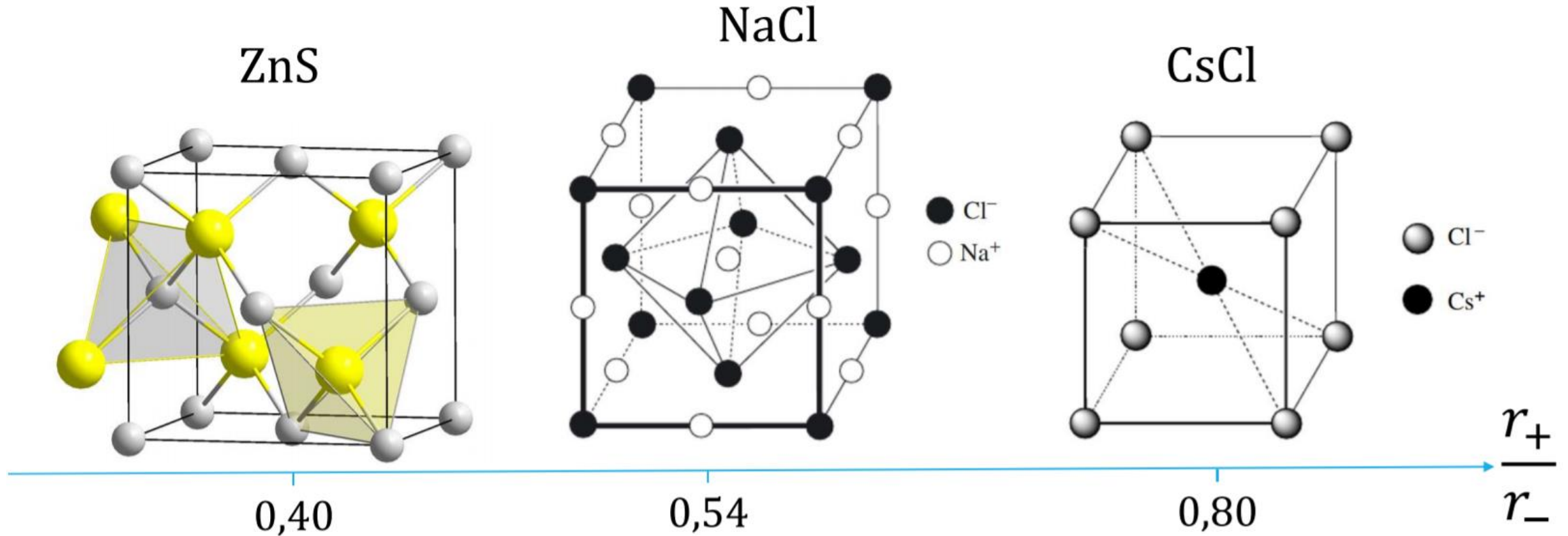
Le carbone diamant : un cristal covalent



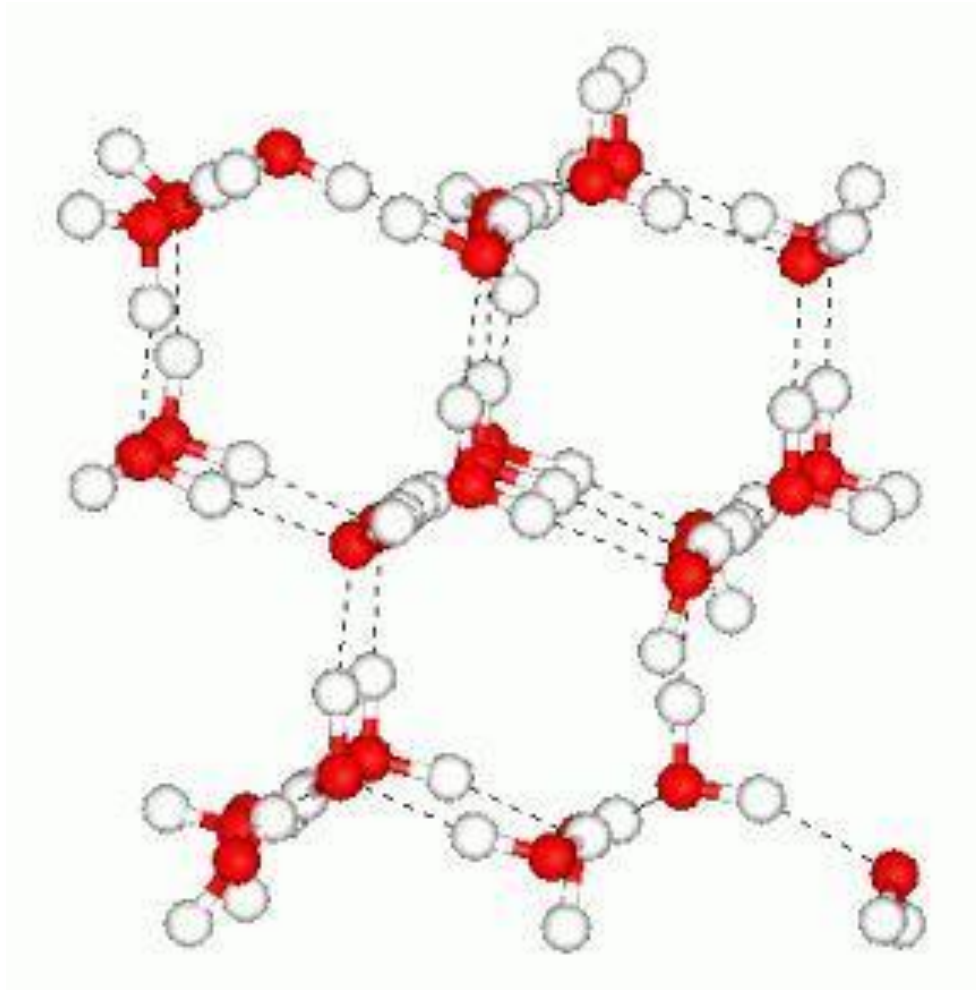
La carbone graphite



Evolution de la structure avec le rapport des rayons des ions



Un cristal moléculaire : la glace I



--- Liaisons hydrogène

