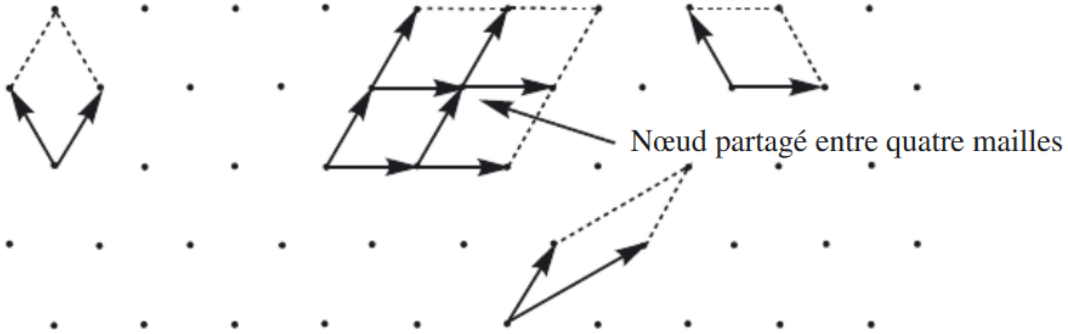
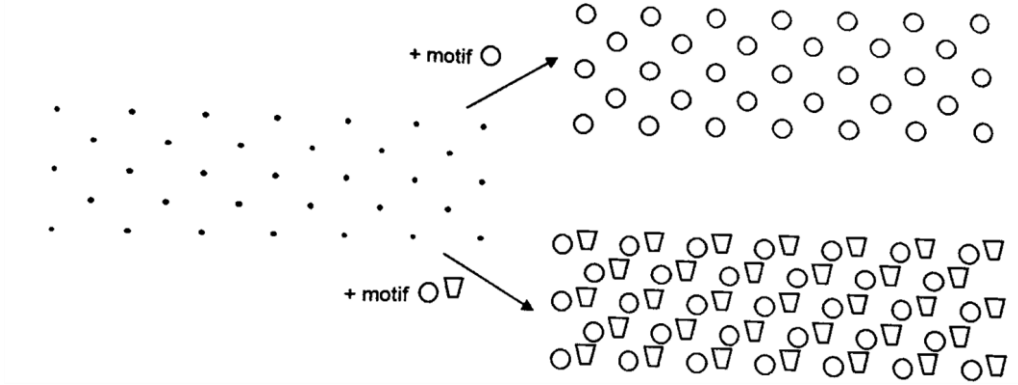
Solides cristallins

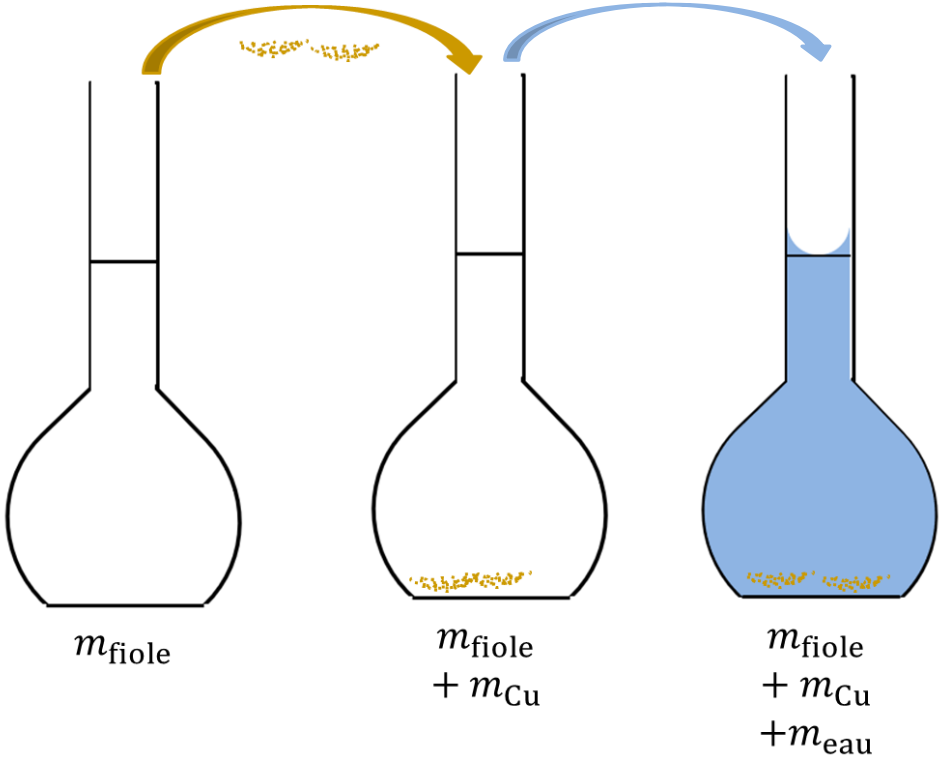
Agrégation

Réseaux et Motifs





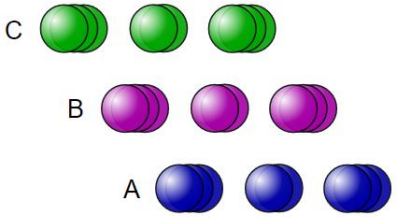
Mesure de la masse volumique du Cuivre

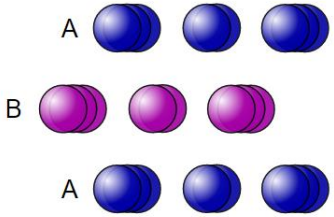


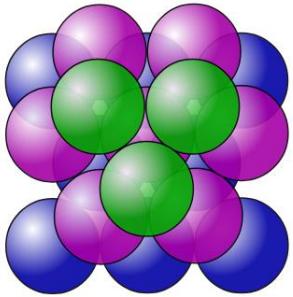
$$V_{\text{Cu}} = V_{\text{fiole}} - \frac{m_{\text{eau}}}{\rho_{\text{eau}}}$$

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

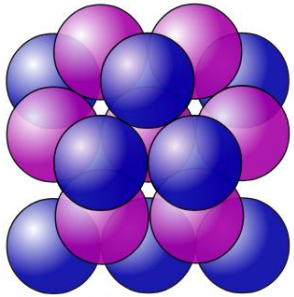
Empilement compacts





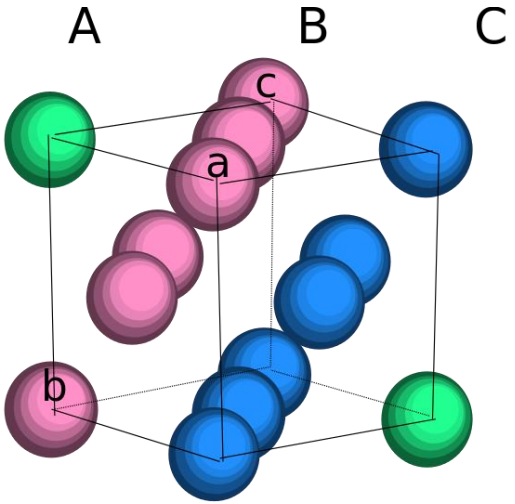


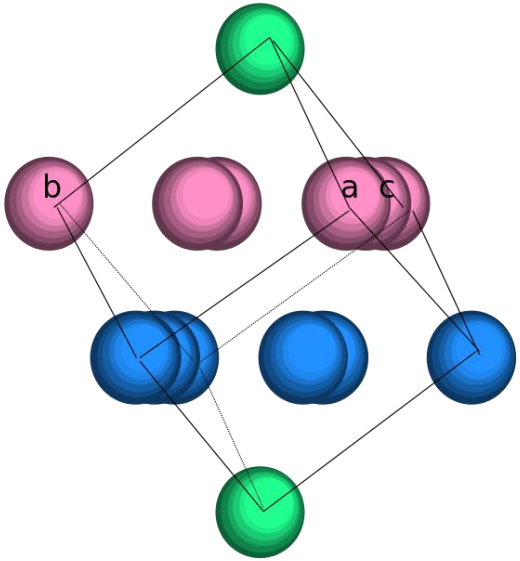
Cubique à faces centrées ABC

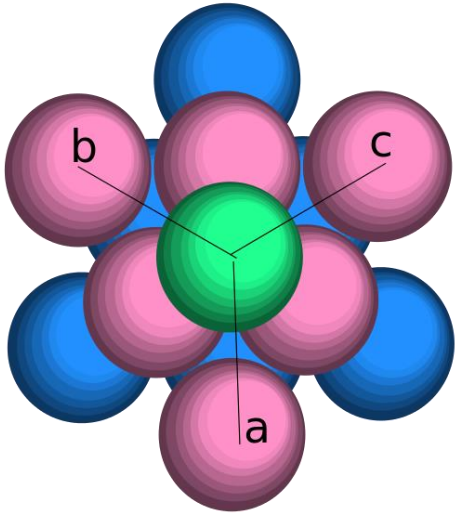


Hexagonal compact ABA

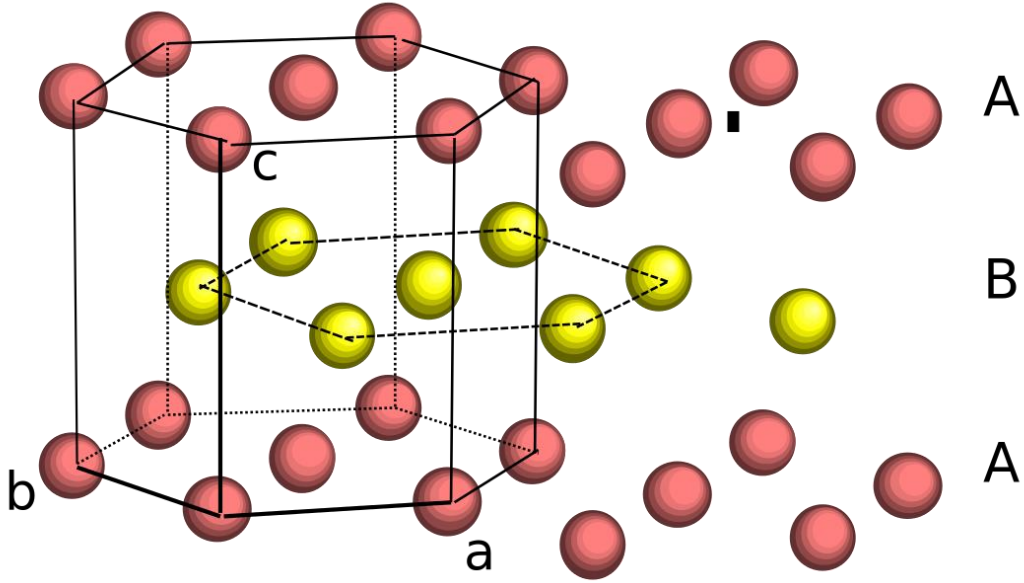
Structure cubique face centrées

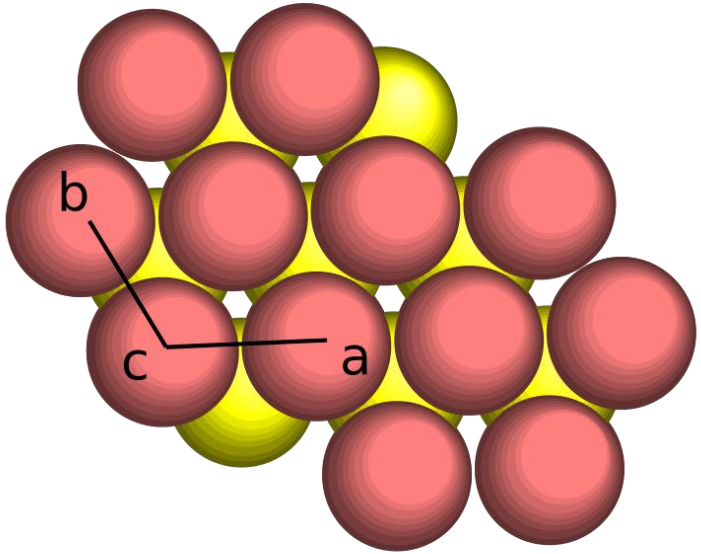




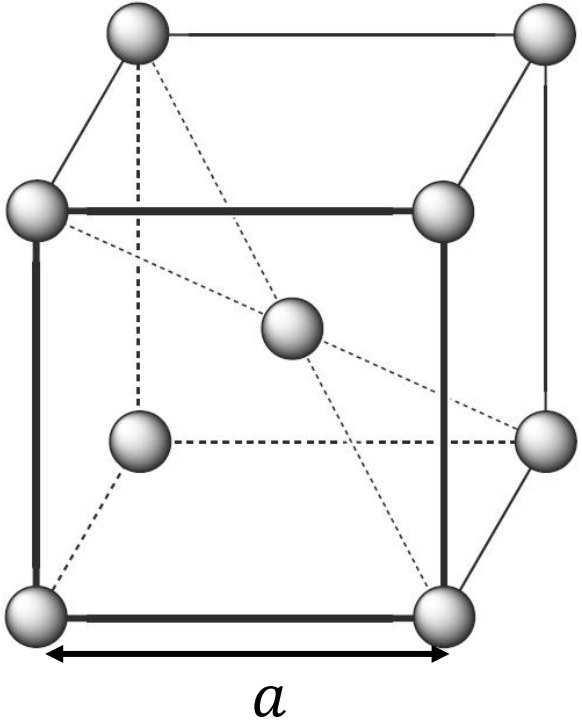


Structure hexagonale compacte





Structure cubique centré



- **Condition de tangence :**

$$a\sqrt{3} = 4r \quad \Rightarrow \quad \boxed{a = \frac{4r}{\sqrt{3}}}$$

- **Population :**

$$8 \times \frac{1}{8} + 1 = \boxed{\text{2 motifs par maille}}$$

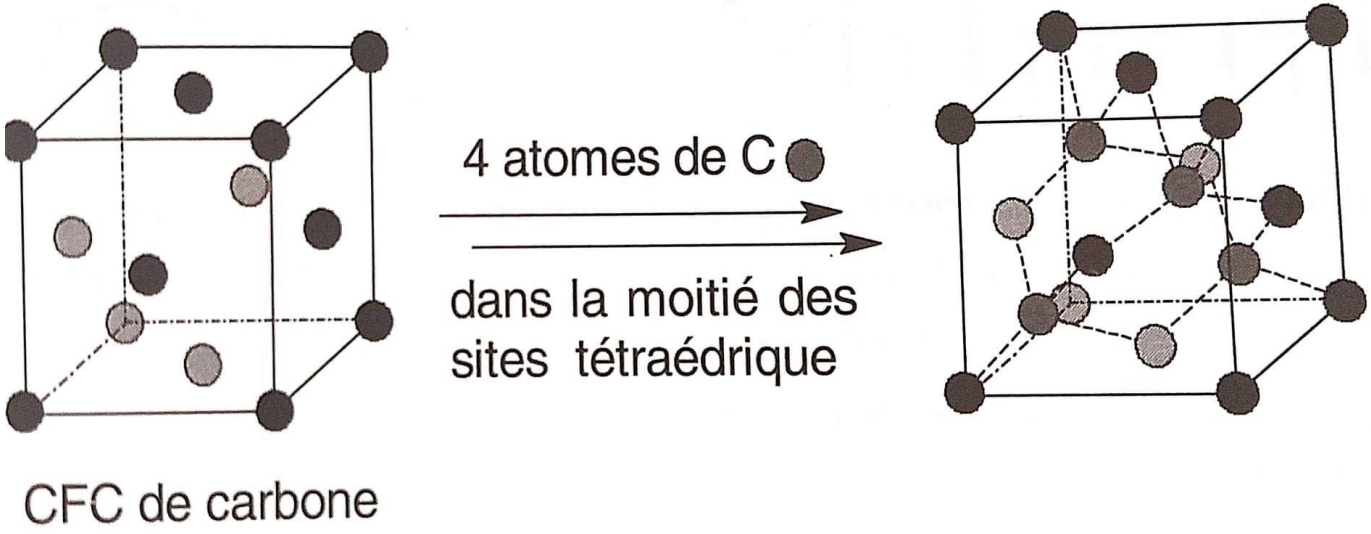
- **Coordinence :**

$$\boxed{\text{Fe/Fe} = [8]}$$

- **Compacité :**

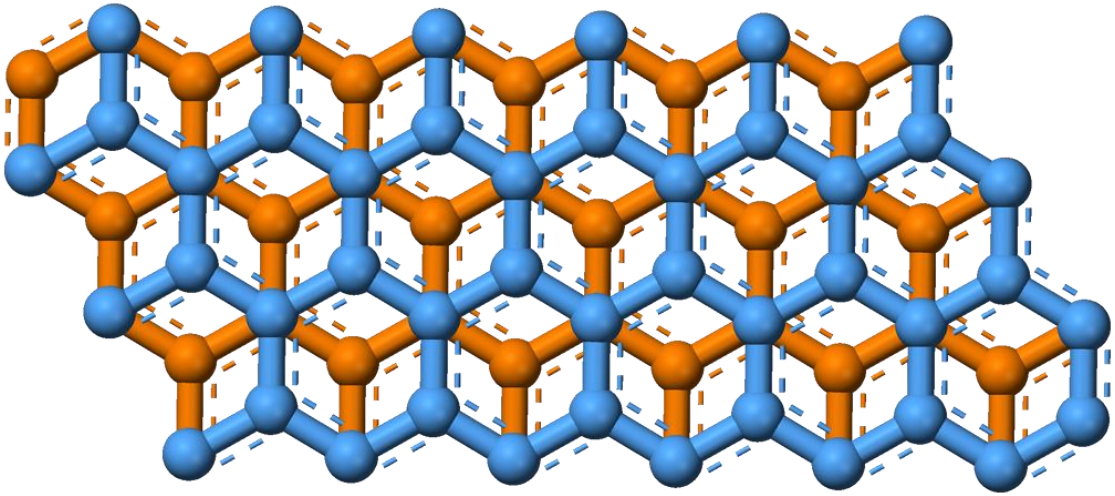
$$C = \frac{2 \times \frac{4}{3}\pi r^3}{a^3} \quad \Rightarrow \quad \boxed{C = \frac{\pi\sqrt{3}}{8} \approx 0{,}68}$$

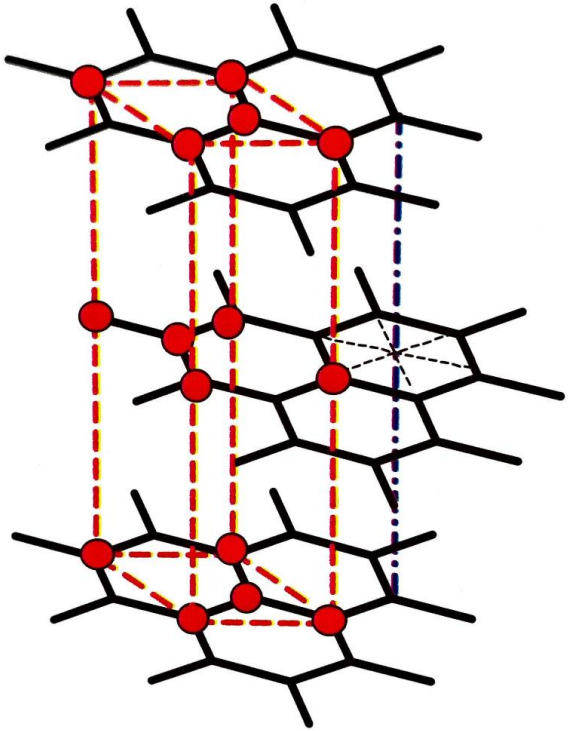
Diamant



Structure du diamant à partir d'une maille CFC de carbone.

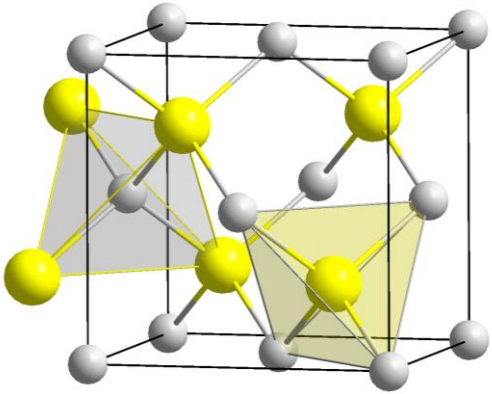
Graphite



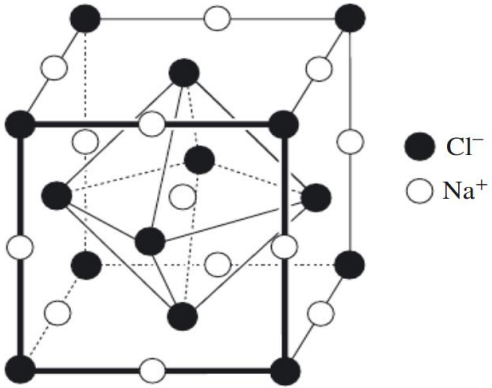


Cristaux ioniques

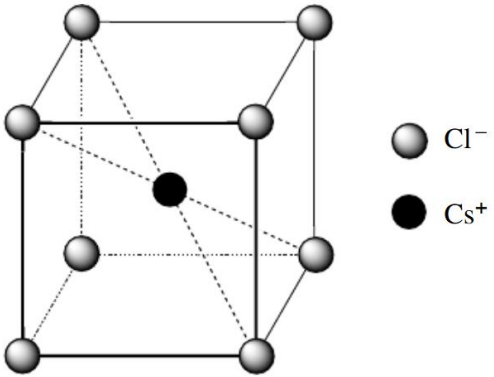
ZnS



NaCl



CsCl



0,40 — 0,54 — 0,80 — $\frac{r_+}{r_-}$

Merci