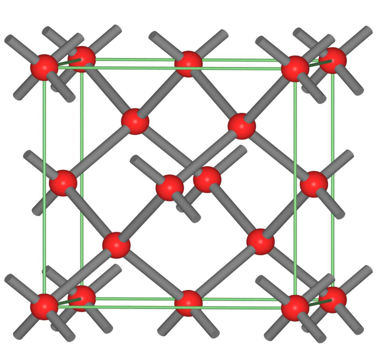
# 7. Tetrele (4. Hauptgruppe): C, Si

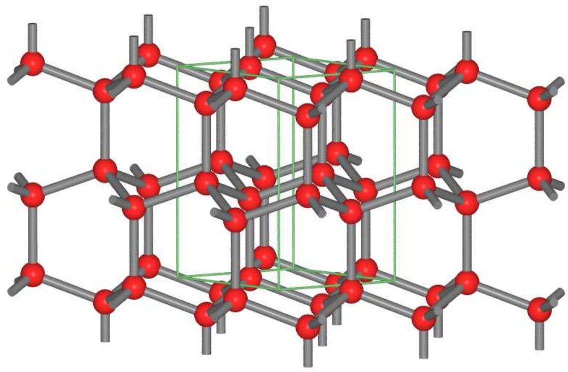
## 7.1. Elemente

| | C (Graphit) | C (Diamant) | $C_{60}$ | Si |
|---|---|---|---|---|
| EN | 2.5 | | | 1.7 |
| IE [eV] | 11.3 | | | 8.1 |
| Farbe/Glanz | schwarz glänzend | farblos | dunkelrot glänzend | metallisch glänzend |
| Härte nach Mohs | < 1 | 10 | | |
| $d_{X-X}$ [pm] | 141.5 / 335.4 | 154.5 | 141 | 234 |
| Schmp. [°C] | 3550 | | 400 (subl.) | 1410 |
| elektr. Widerst. [Ω cm] | $2\ 10^{-4}$ (∥ Schichten)<br>0.2 - 1 (⊥ Schichten) | $10^{15}$ | | 50 |
| Bandlücke [eV] | 0 | 5.8 | | 1.17 |
| $\Delta H_{Verbr.}$ [kJ mol$^{-1}$] | 393.5 | 395.4 | | |
| $\Delta H_B^0$ [kJ mol$^{-1}$] | 0.0 | 1.9 | 38 | |

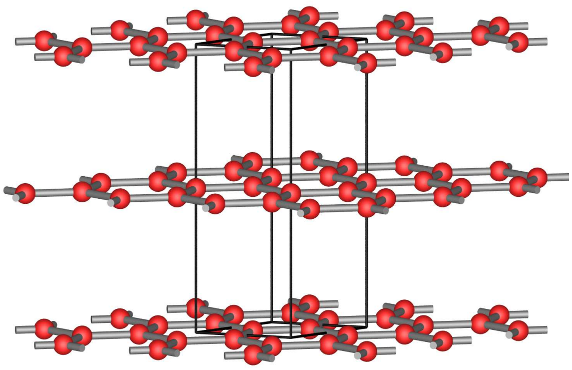
## C: Graphit, Diamant



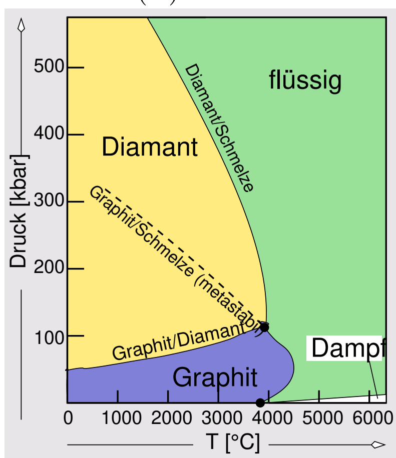
Diamantstruktur (C, Si)



hexagonaler Diamant (C)

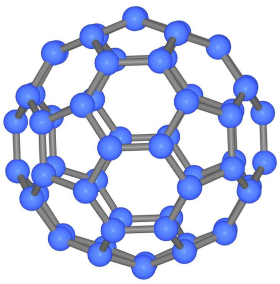


Graphit

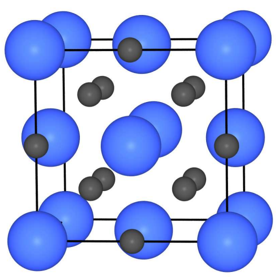



pT-Diagramm von C

## C: Fullerene, Fulleride

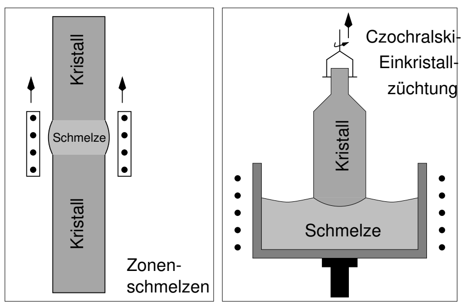


$C_{60}$ (Molekül)



$K_3C_{60}$ (Packung der Moleküle)

## Silicium




Kristallzüchtungsmethoden für HL-Silicium