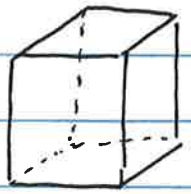
11/30 Today : finish ch 11
12/2 Sunday: Problem club with Ali
12/3 Monday: Review for celebration of knowledge
12/4 Tuesday: problem club with Ali (last one)
12/5 Wednesday: CK5
12/7 Review for final



12 edge centers, each ¼ inside the cell
↳ 3 atoms / unit cell

in ionics... anions = brg, cations = small

· fcc: 4 atoms / unit cell

· NaCl

Cl^- = fcc : 4 atoms / unit cell

Na^+ = fill in "gaps" : 3 (from edge) + 1 (body center) = 4 atoms / unit cell
↳ are in octahedral holes (6 sided holes)

tetrahedral holes = 8 atoms / unit cell (4 sided holes)
↳ smaller than octahedral cells

CsCl structure

Cl^- form a simple cube sublattice $8 \times \frac{1}{8} = 1\ Cl^-/\text{unit cell}$

Cs^+ is situated in body centered position $= 1\ Cs^+/\text{unit cell}$

*naming of unit cell is based on big ion (anions)

CaI_2An_2 (CaF_2)

big ions: simple cubic sublattice

small ions: in half the body centered positions

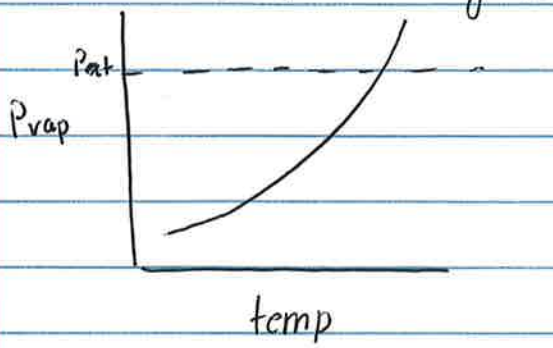
network covalent

- special type of covalent molecular
- examples: graphite, diamond, $SiC_{(s)}$
- always solids
- layers held together by weak intermolecular forces
- called allotrope
- do not have definite formula

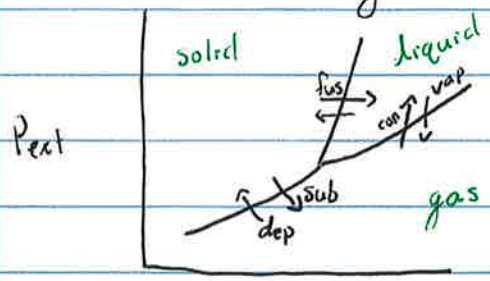
- Not covalent network = C_{60}. $MM = 720\ g/mol$ "Buckyball"

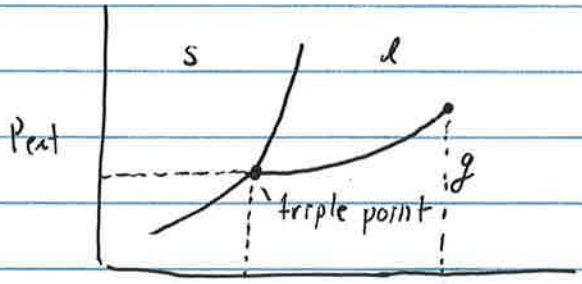
phase diagrams

vapor pressure diagram

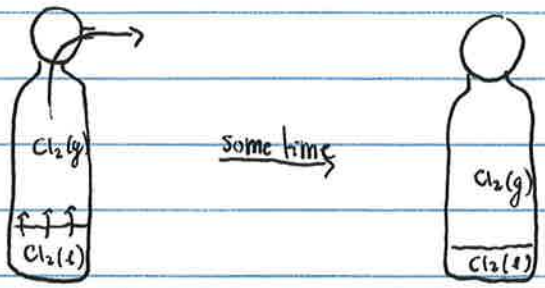


phase diagram

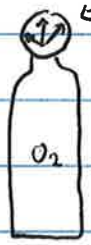




all inter-molecular forces are broken above critical temp.



"condensable gas"



"non-condensable gas" = permanent gas