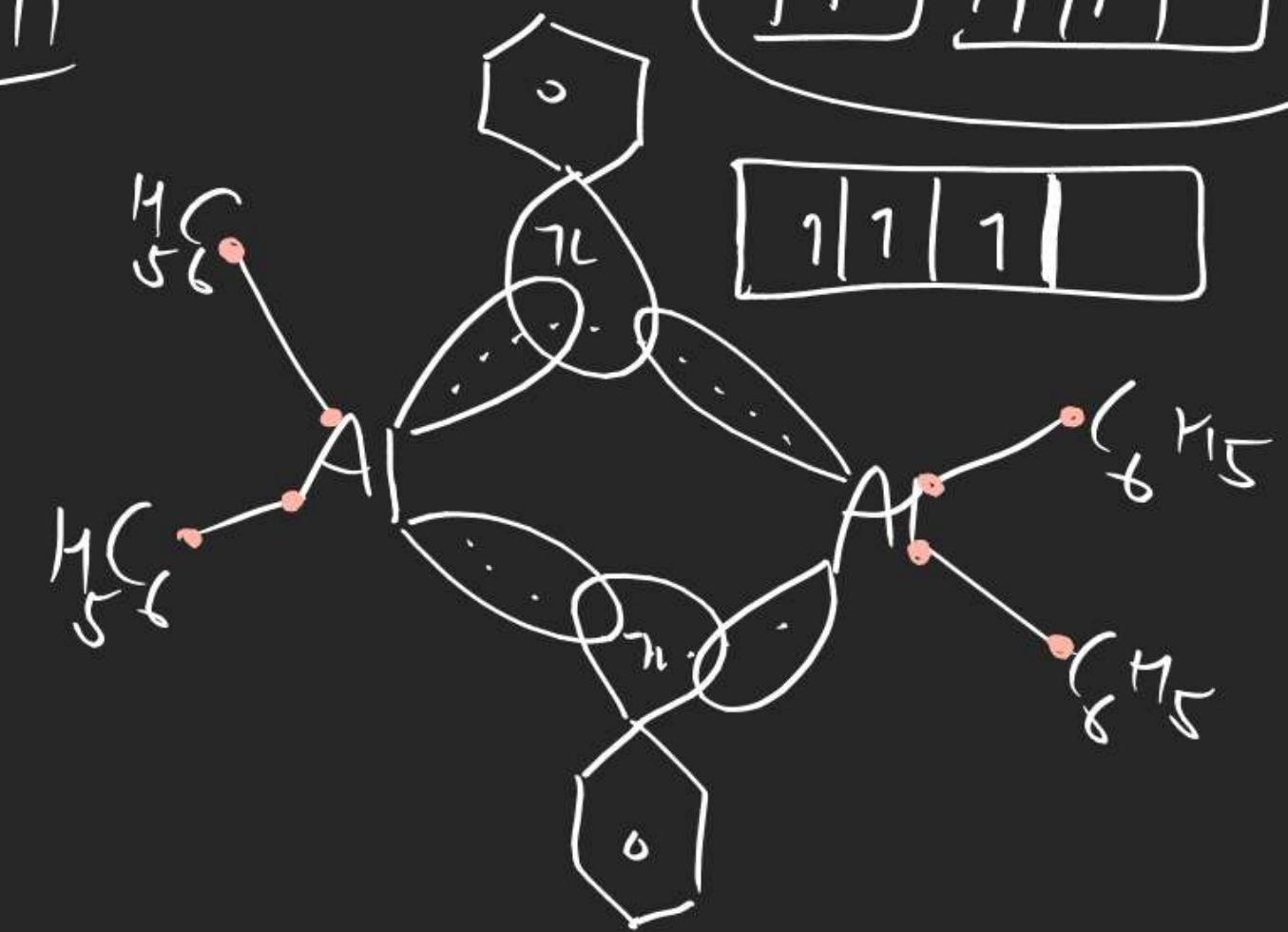
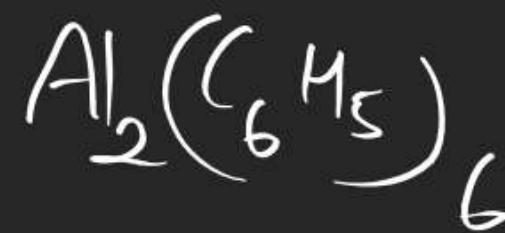
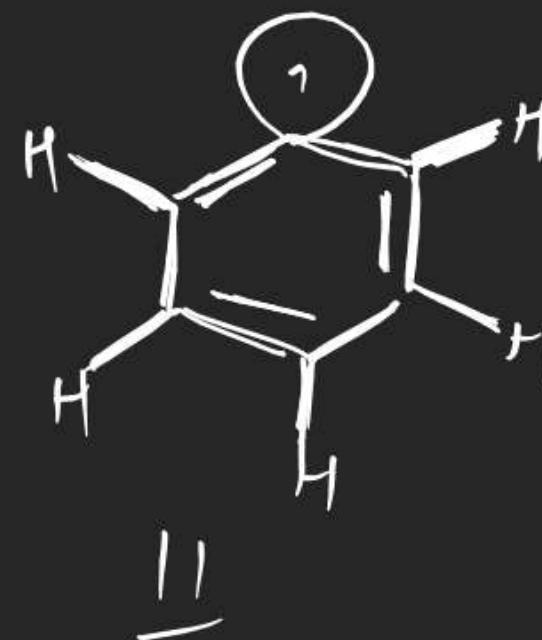


CHEMICAL BONDING





$$3c - 2e^\Theta \text{ bond} = +\omega_D$$

$$2c - 2e^- \text{ bond} = \gamma_D$$

(Vap.) BeH_2 (monomer)



sp

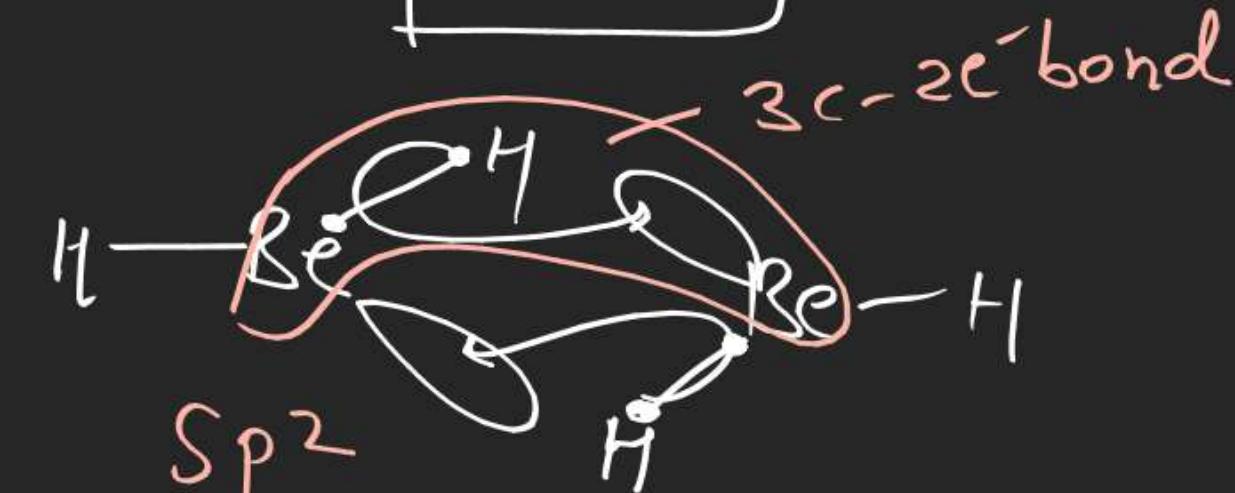
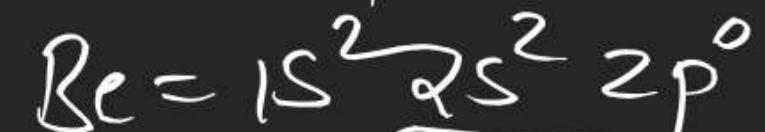
linear

 e^- def.

Hypo val.

L.A

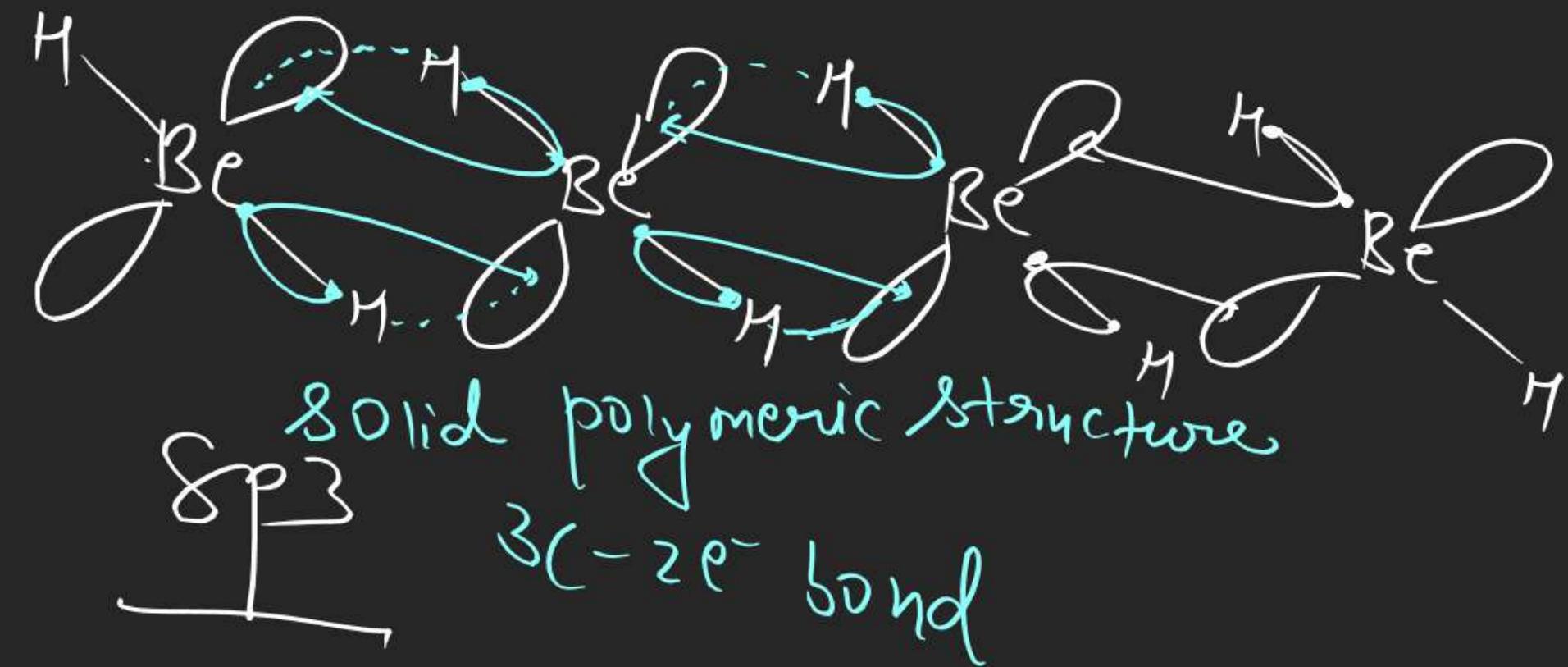
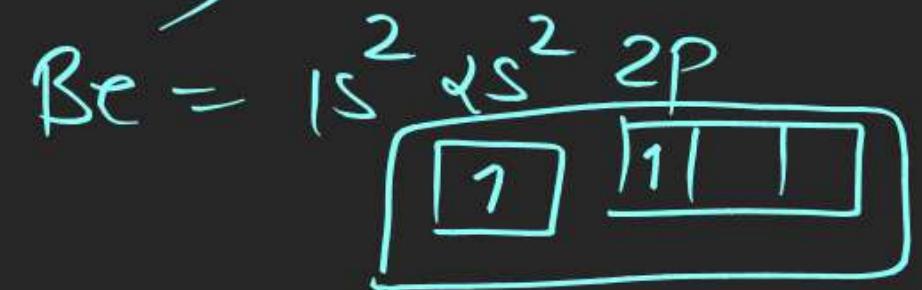
(Vap.) BeH_2 (dimer)

sp²

planar

Hypo, L.A | e- def.

$\text{BeH}_2(s)$ (Polymer)
(Solid)



What is the Hyb. of Beth₂(s)

- ⑤ sp
- ⑥ sp²
- ⑦ sp³
- ⑧ sp³d

CHEMICAL BONDING

BeCl_2 (monomer)

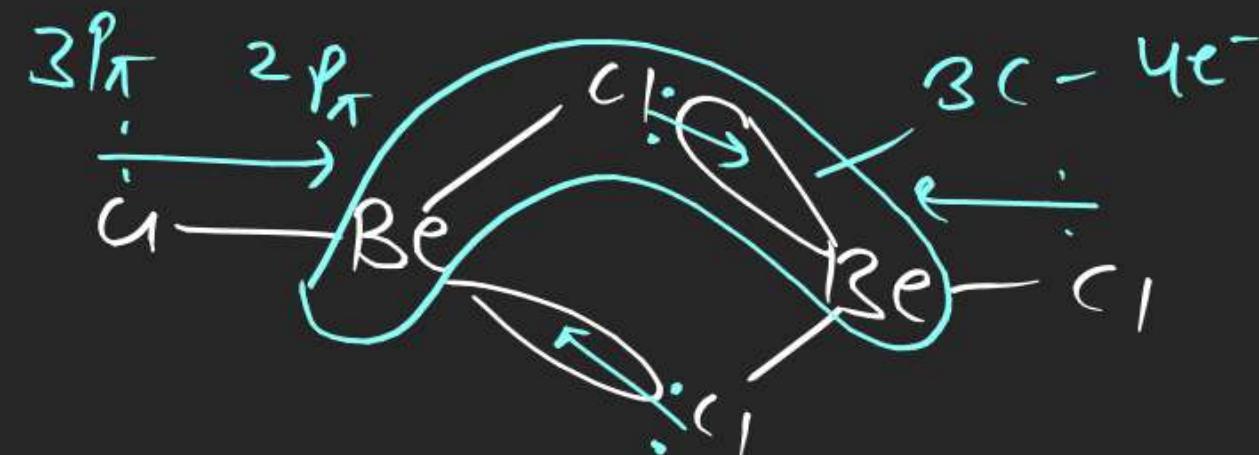


SP
linear

e-def

Hypop. / L.A

BeCl_2 (dimer) / Be_2Cl_4



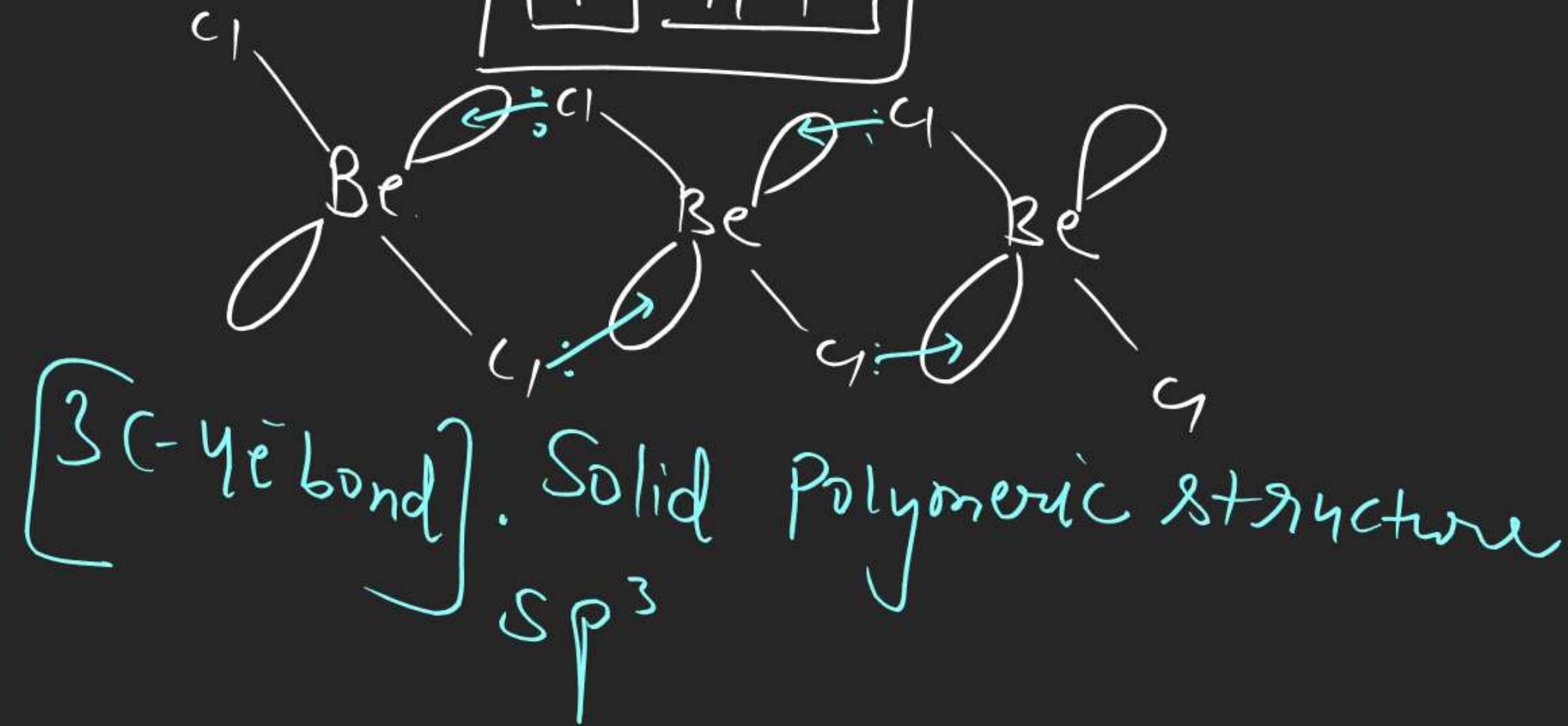
SP² p planar

$3C - 4e^-$ bond = two
L.A

CHEMICAL BONDING

BeCl_2 (Polymer)
_(s)

$\text{Be} = 1s^2 2s^2 2p$

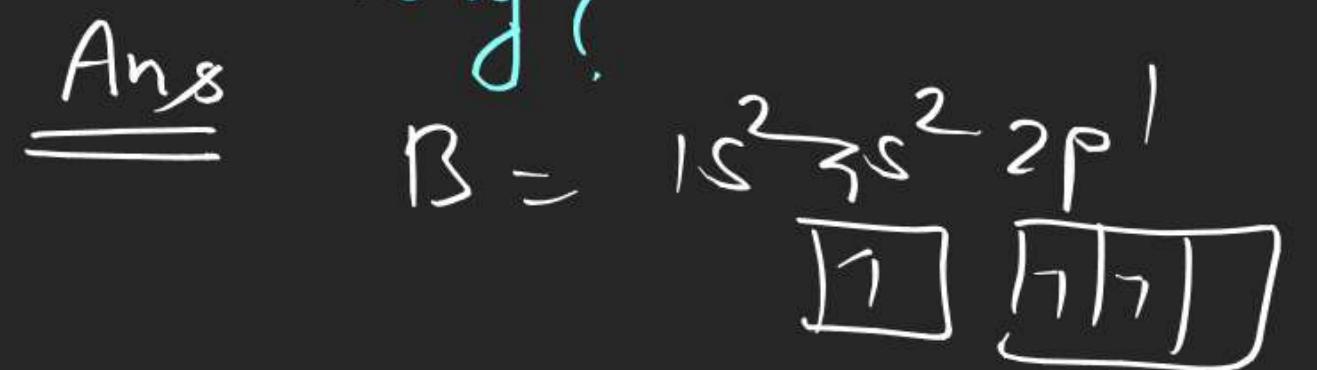


CHEMICAL BONDING

~~one~~ BH_3 undergoes in dimerisation

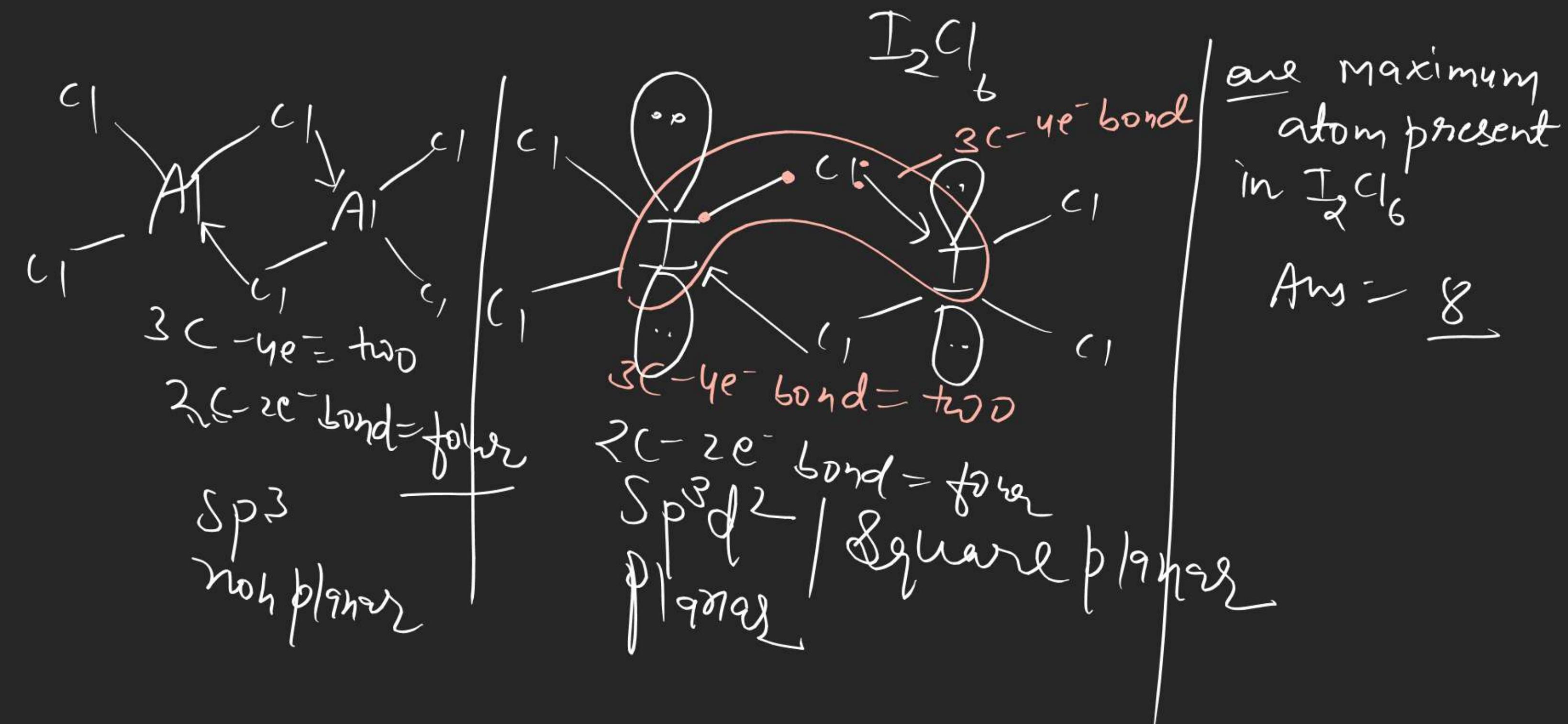
while BeH_2 undergoes in polymerisation

Why?



In BH_3 Boron has only one vac. orbital
while Be Has two vac. orbitals

CHEMICAL BONDING



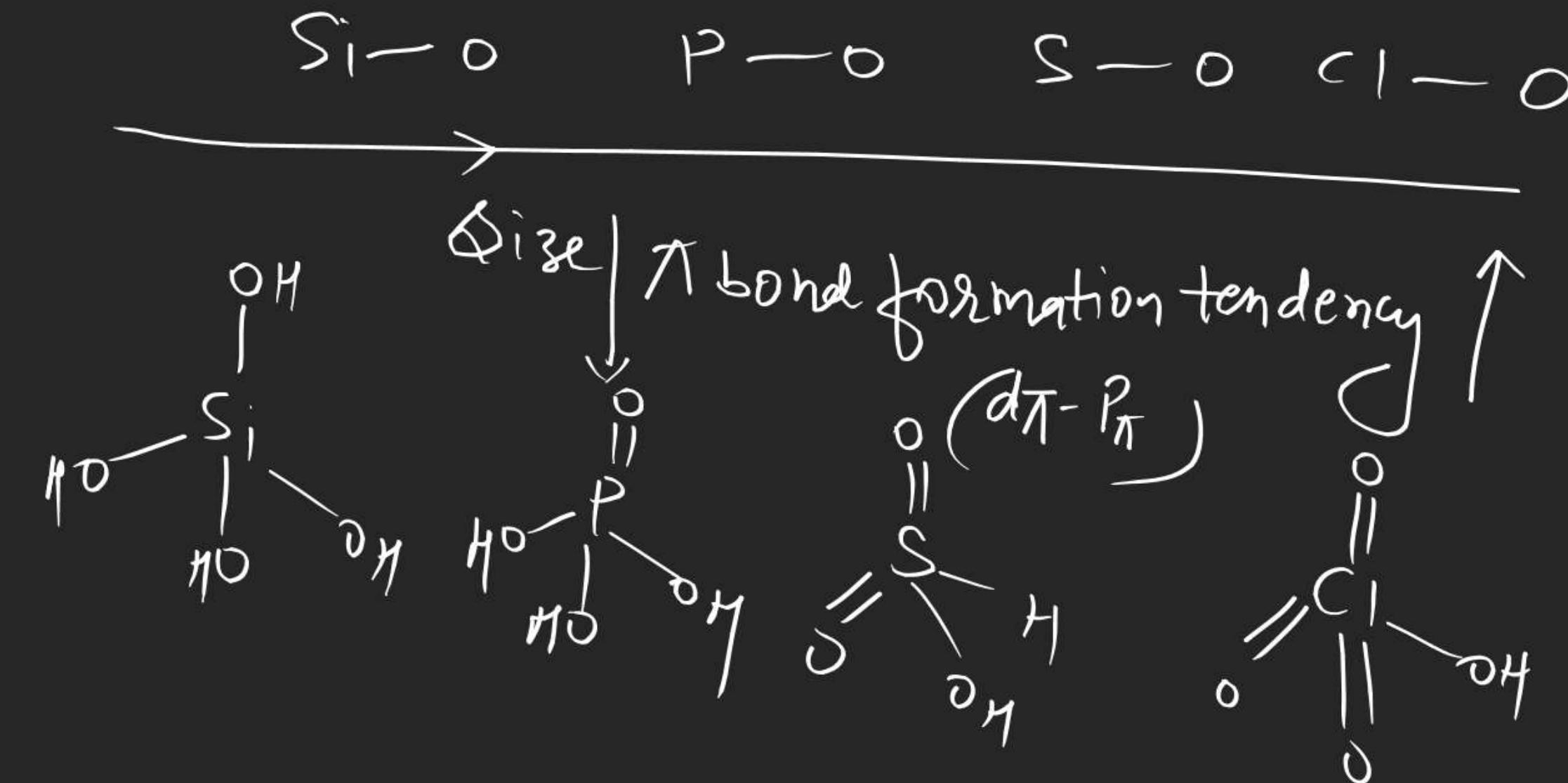
CHEMICAL BONDING

Sheet — HW

- Bent's Rule / Drago's
- V-L-F
- Back bonding
- Bridge bond

CHEMICAL BONDING

Silicate

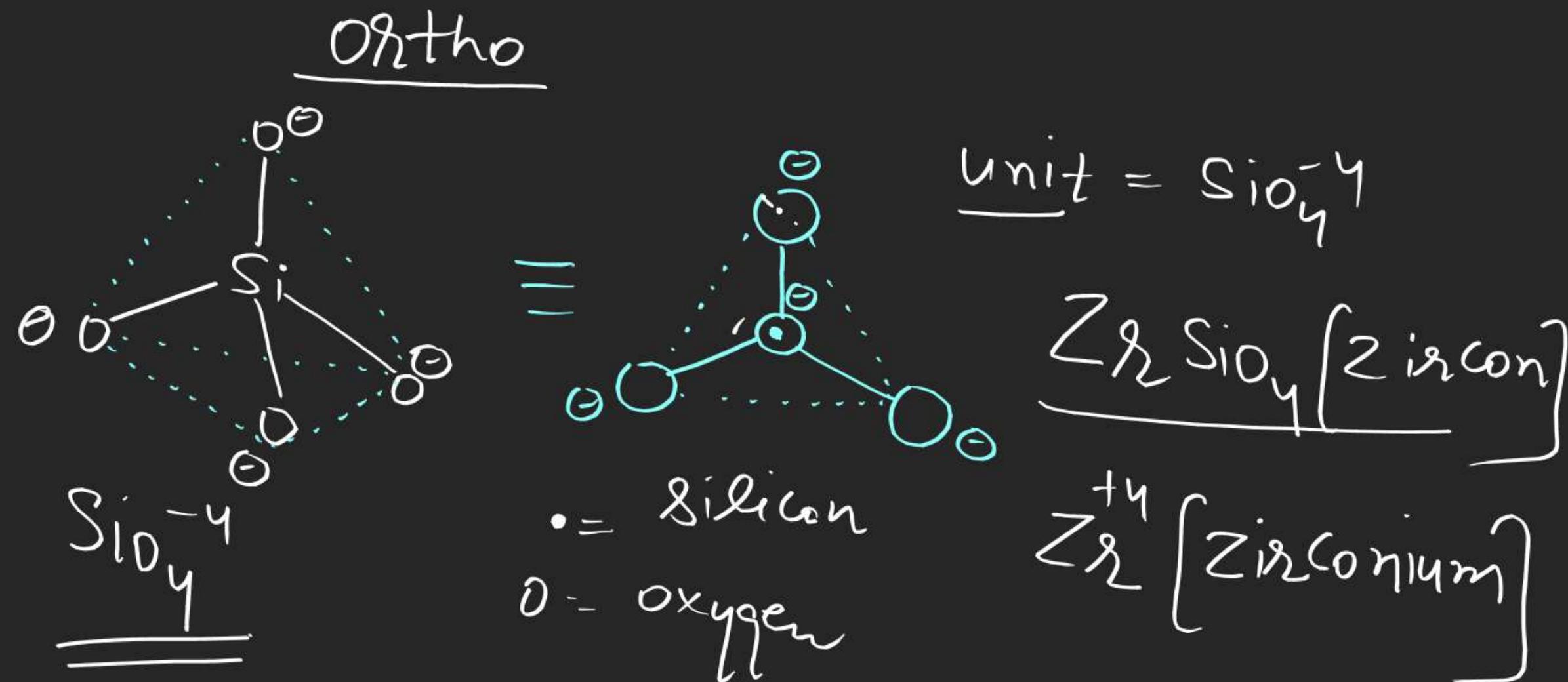


CHEMICAL BONDING

Si does not form π bond
with oxygen due to its large size
So it satisfied its covalency with
oxygen through single bond and
type of silicate undergoes in diff type of silicate

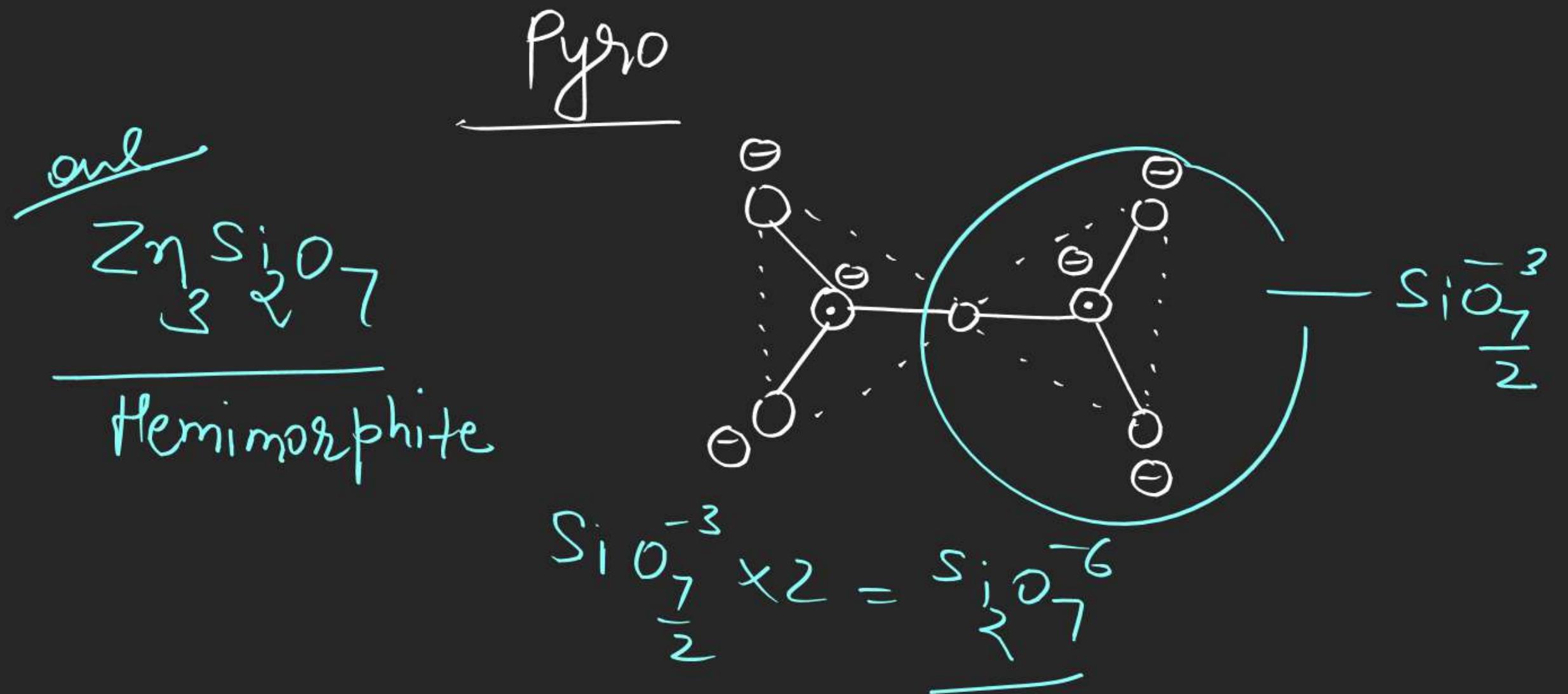
- ① Ortho ② Pyro (Disilicate) ③ Cyclic ④ Single (Pyroxene)
- (5) Double Chain [Amphibole] ⑥ 2D Sheet Silicate
- ⑦ 3D Silicate

CHEMICAL BONDING

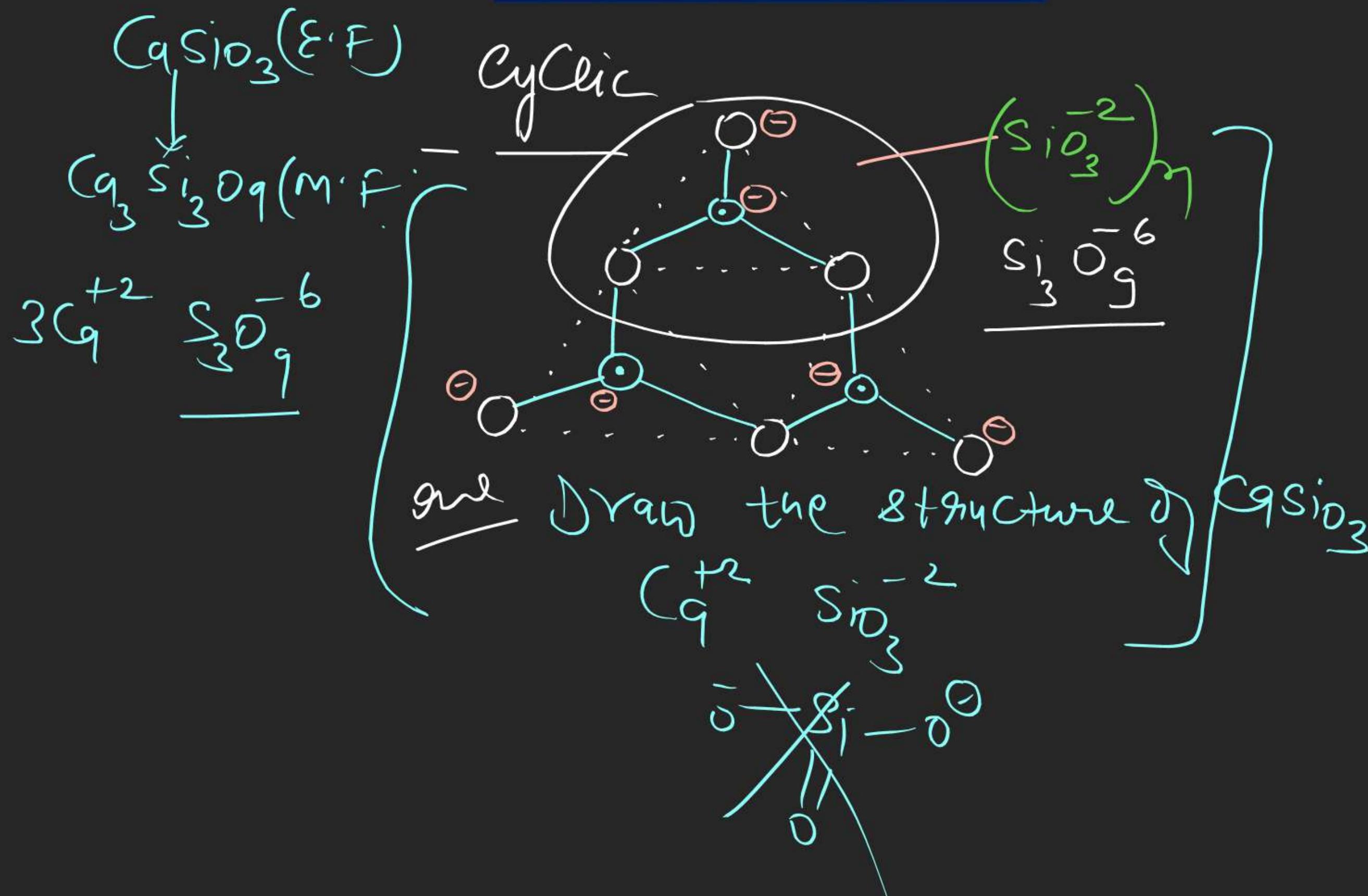


Ortho Silicate \rightarrow Portland Cement Component

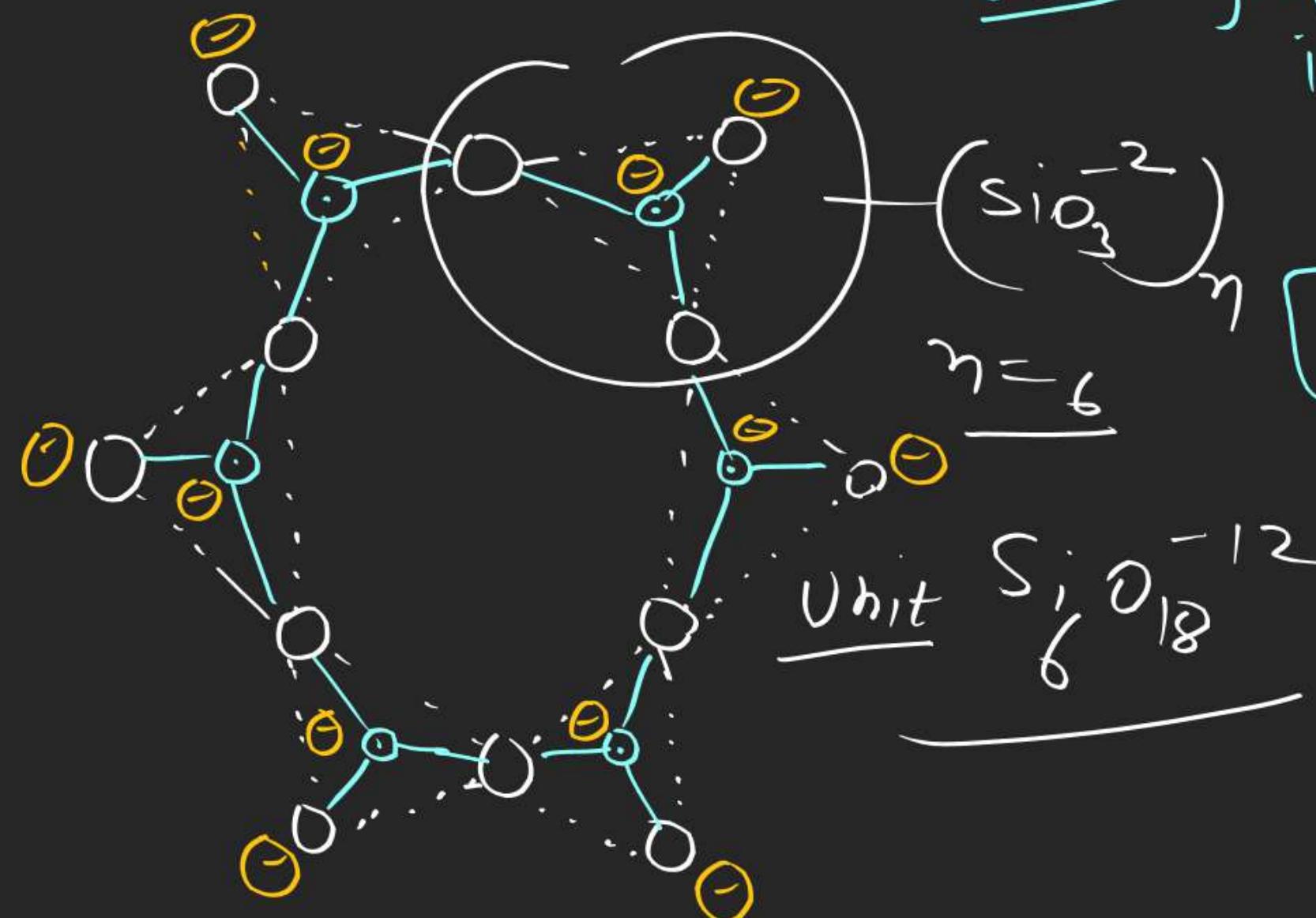
CHEMICAL BONDING



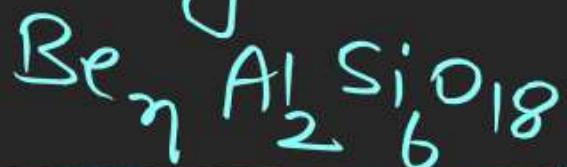
CHEMICAL BONDING



CHEMICAL BONDING



one find the value of γ in Beryl (Emerald)



$$\gamma = \rho = 3$$

