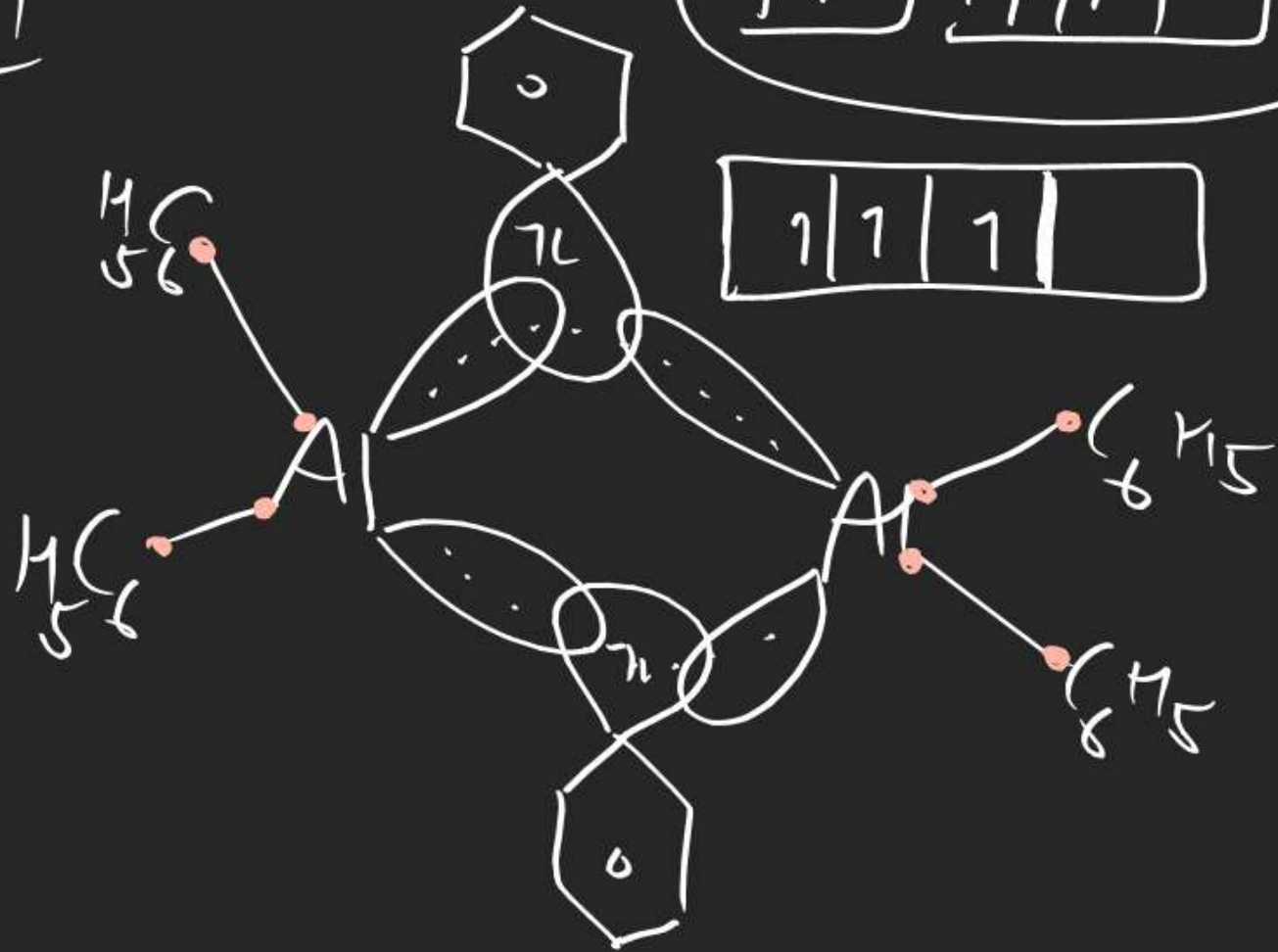
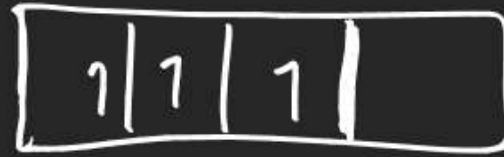
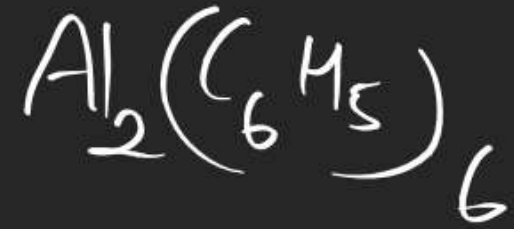
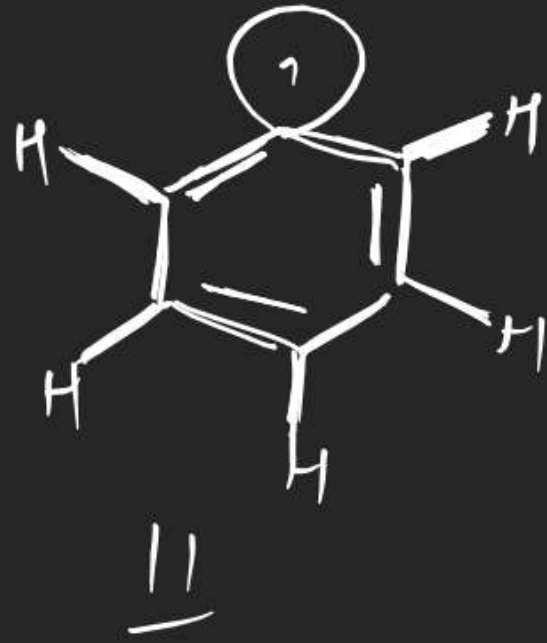


# CHEMICAL BONDING





(vap.)  $\text{BeH}_2$  (monomer)



sp

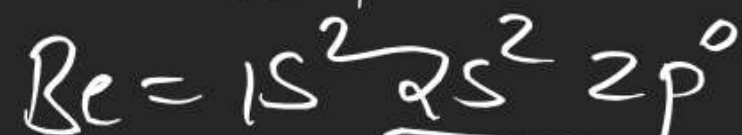
linear

e<sup>-</sup> def.

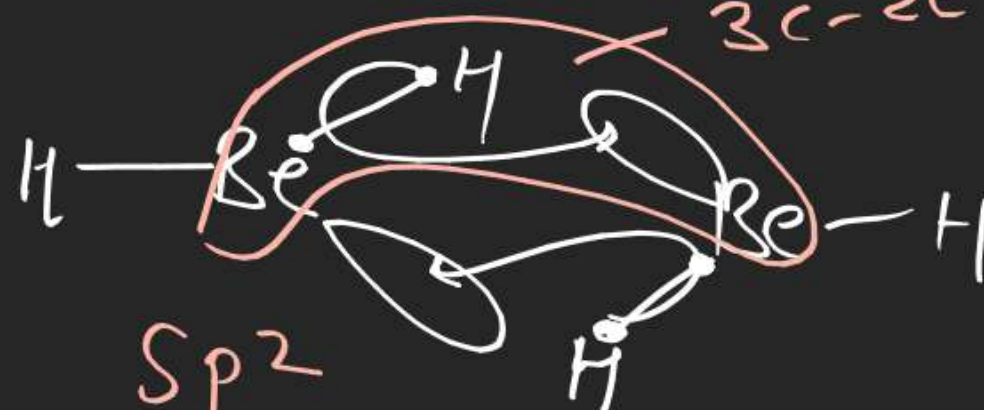
Hypo val.

L.A

(vap.)  $\text{BeH}_2$  (dimer)



3c-2e<sup>-</sup> bond

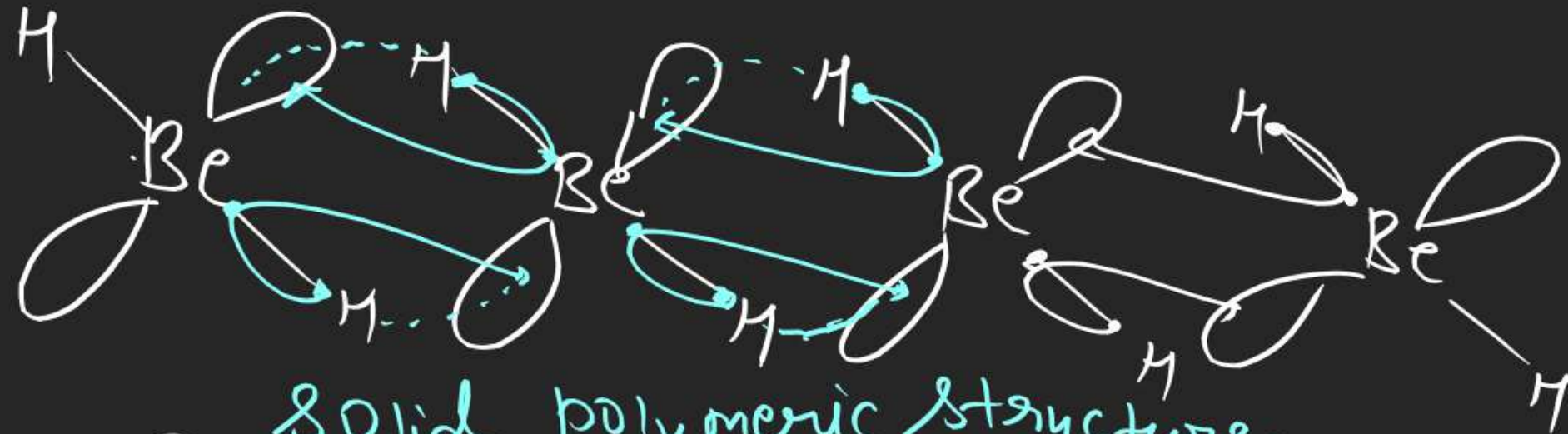
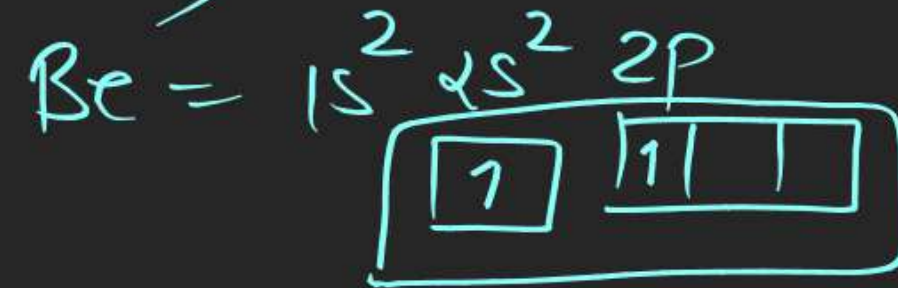


sp<sup>2</sup>

Planar

Hypo, L.A | e<sup>-</sup> def.

$\text{BeH}_2(\text{s})$  (polymer)  
(solid)



solid polymeric structure  
 $sp^3$   
3C-2e<sup>-</sup> bond

What is the Hyb. of  $\text{BeH}_2(\text{s})$

(a)  $sp$

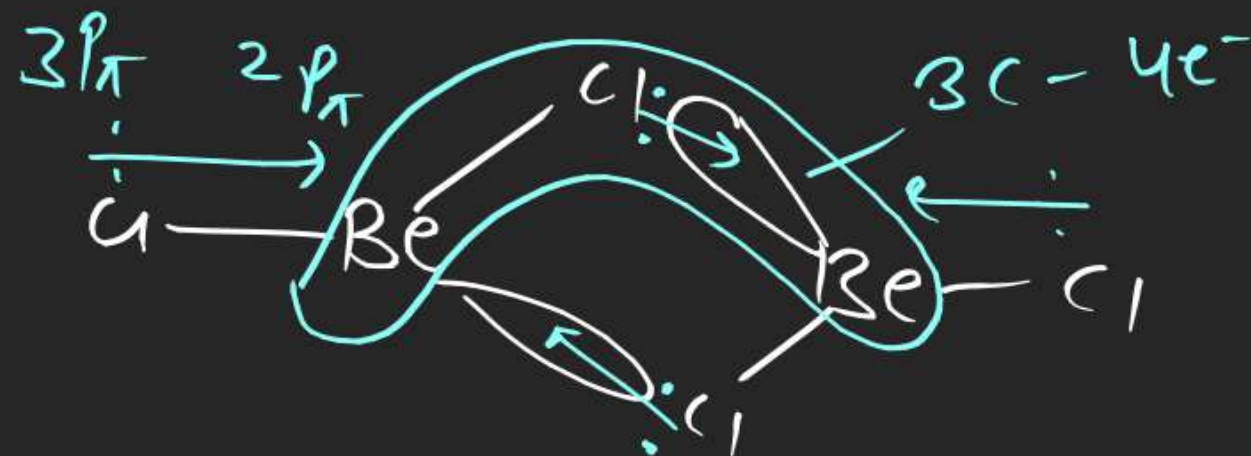
(b)  $sp^2$

☒ (c)  $sp^3$

(d)  $sp^3d$

$$\text{Be} = 1s^2 2s^2 2p^0$$

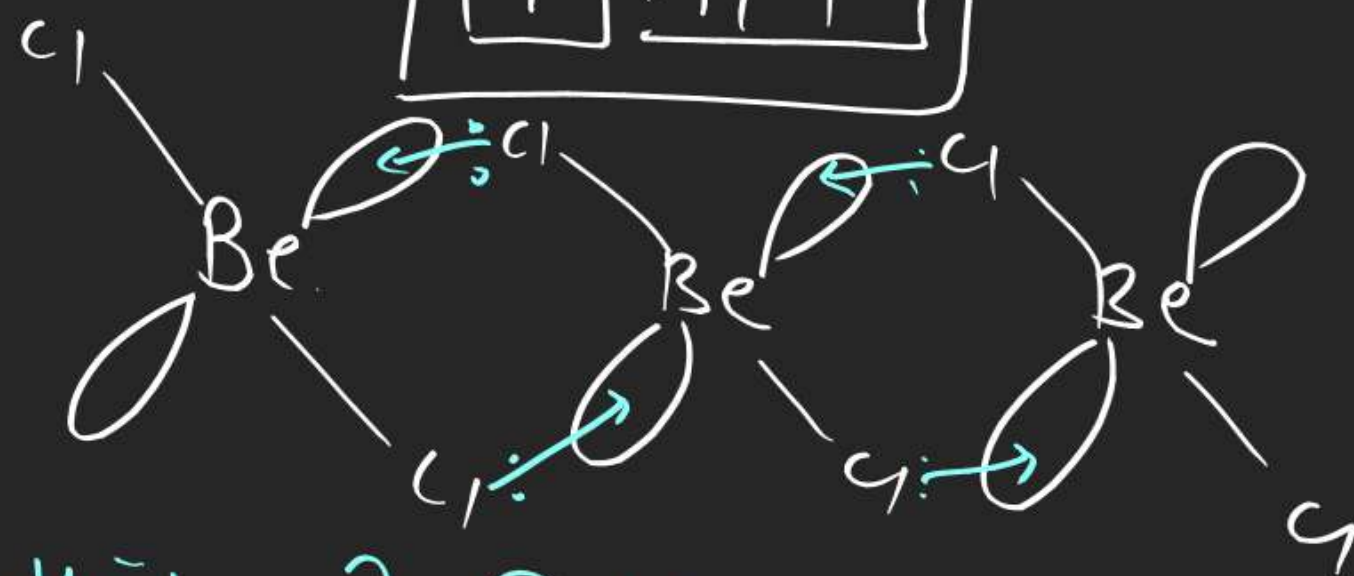
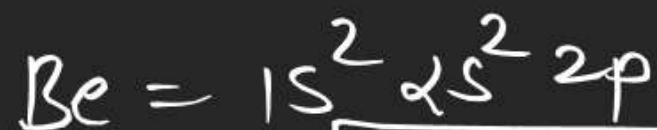

sp  
linear  
e-def  
Hypo/L.A

$$\text{BeCl}_2 (\text{dimer}) / \text{Be}_2\text{Cl}_4$$
$$Be = 1s^2 2s^2 2p^0$$


sp<sup>2</sup> p lshar

3C'-4e<sup>-</sup> bond = two

# CHEMICAL BONDING



[3 C-Cl bond]. Solid Polymeric structure  
 $sp^3$

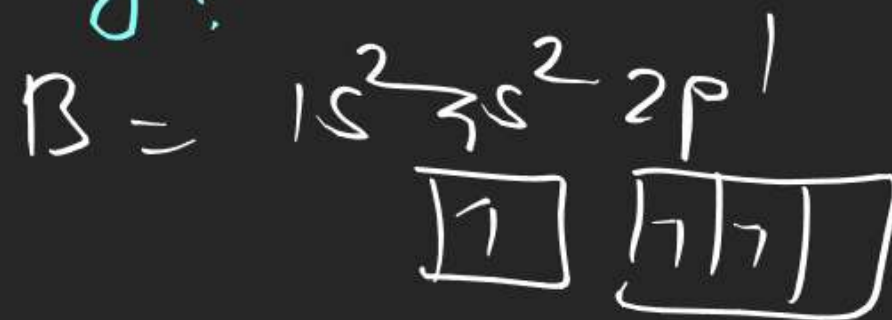
# CHEMICAL BONDING

one  $\text{BH}_3$  undergoes in dimerisation

while  $\text{BeH}_2$  undergoes in polymerisation

Why?

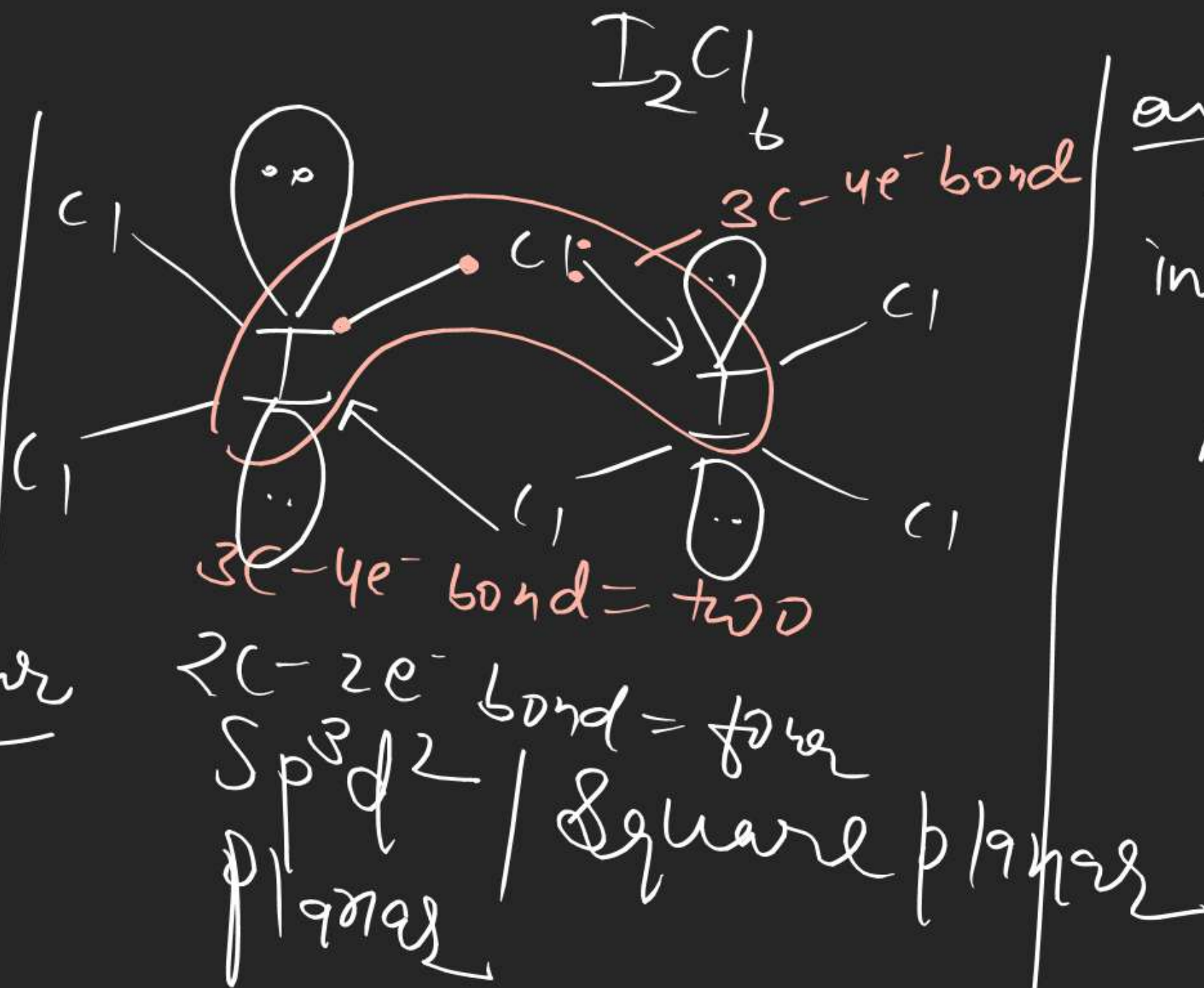
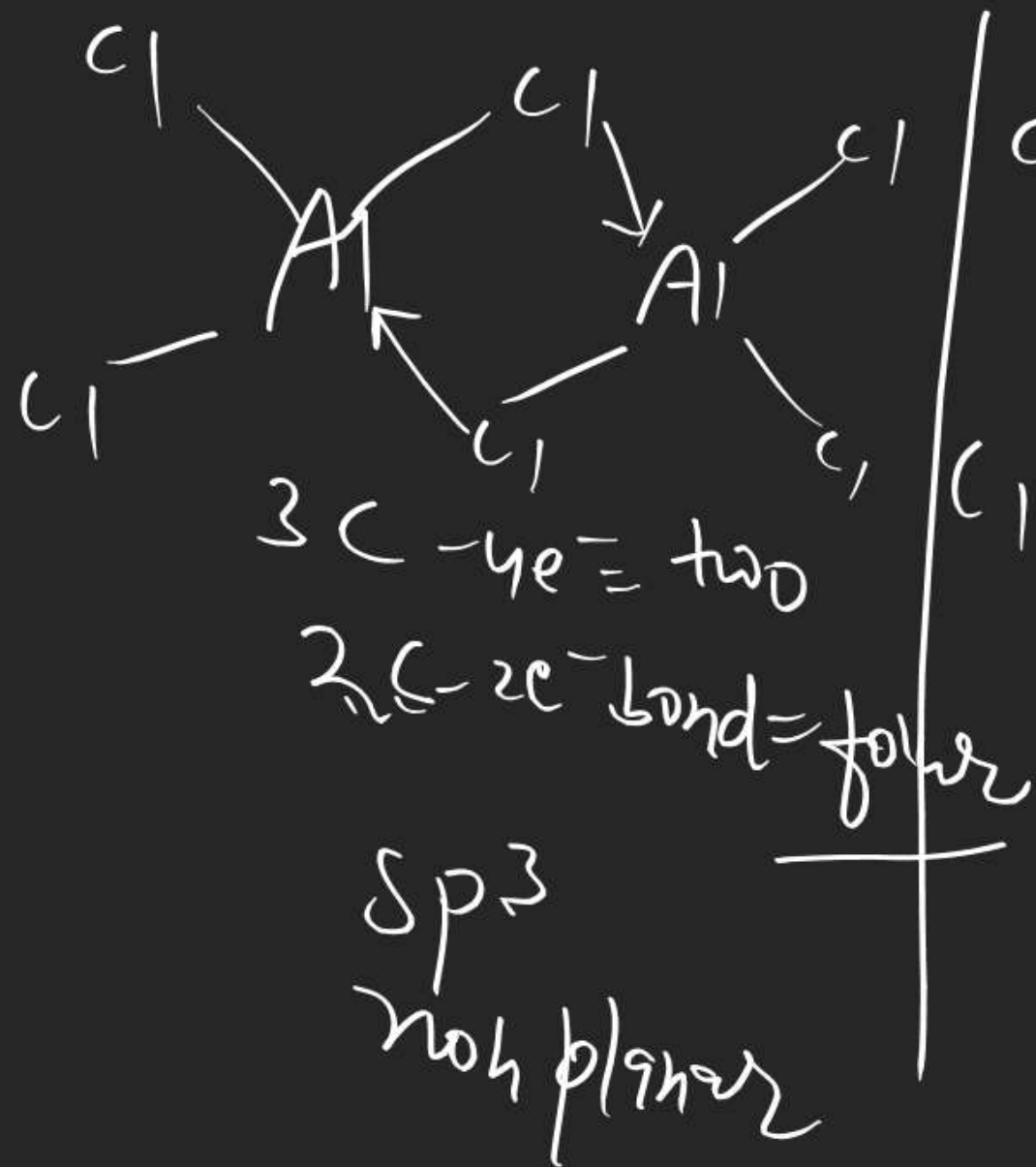
Ans



In  $\text{BH}_3$  Boron has only one vac. orbital

while Be has two vac. orbital

## CHEMICAL BONDING



are maximum  
atom present  
in  $\text{I}_2\text{Cl}_6$

Ans = 8

# CHEMICAL BONDING

Sheet — H.W

— Bent's Rule / Drago's

— V.W.F

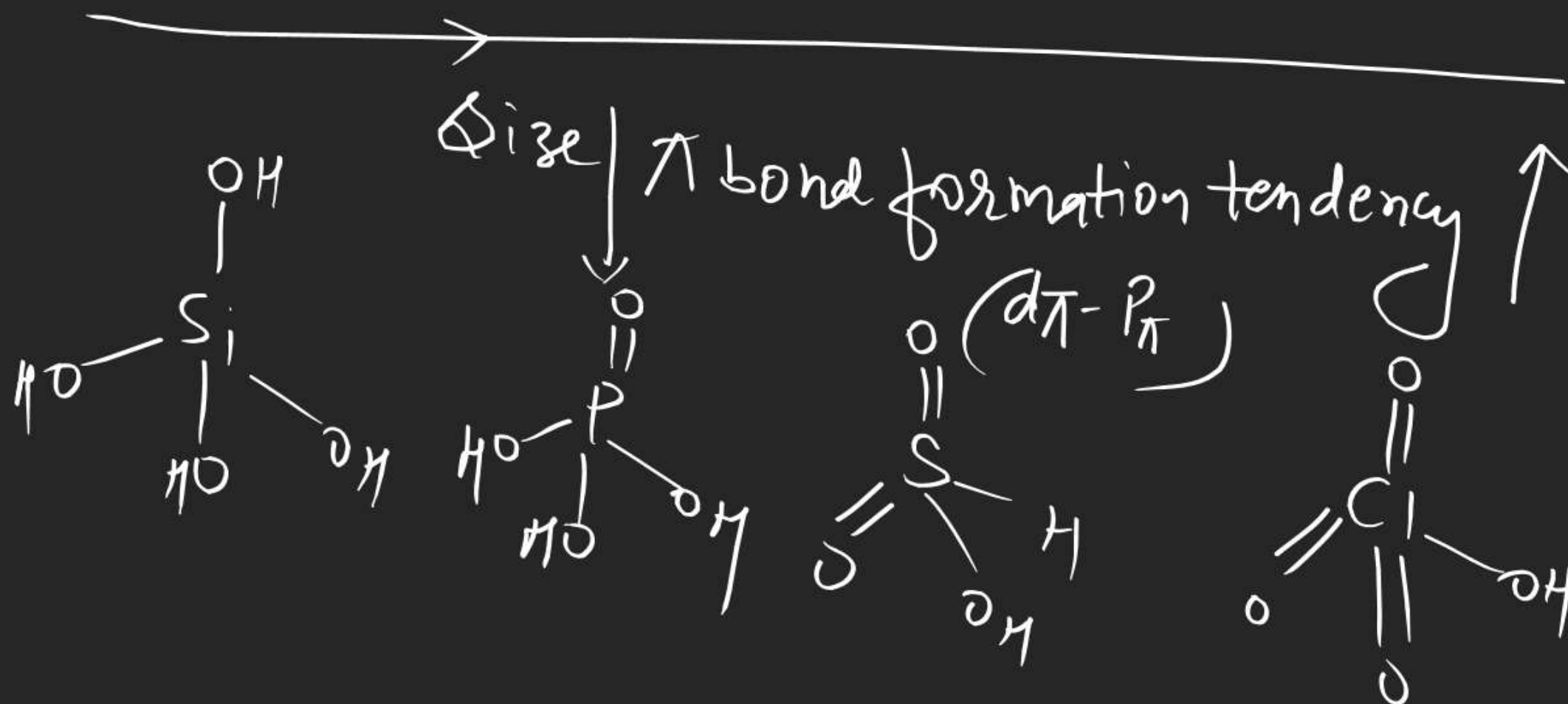
— Back bonding

— Bridge bond

---

# CHEMICAL BONDING

## Silicate



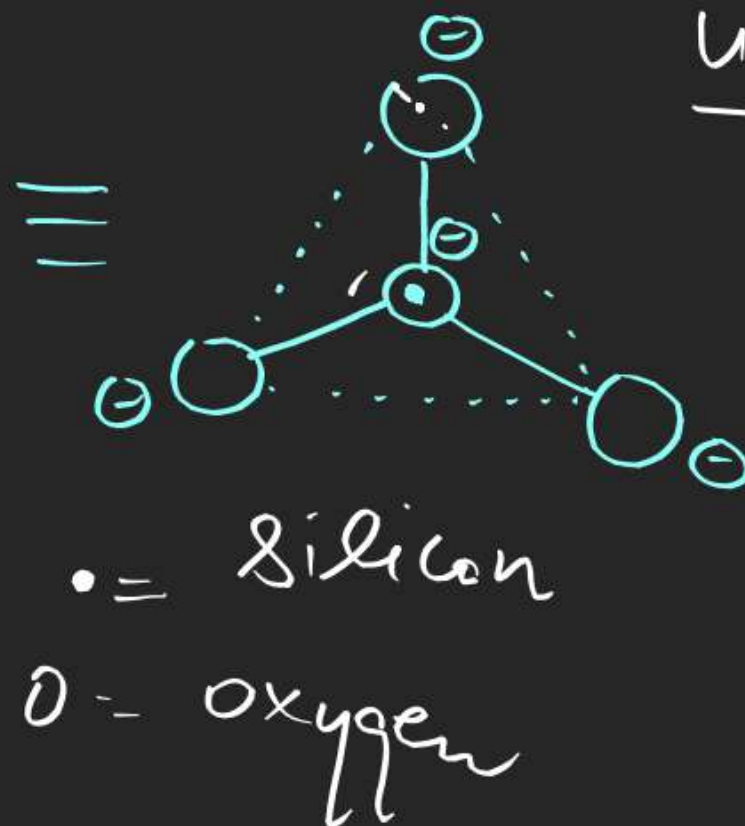
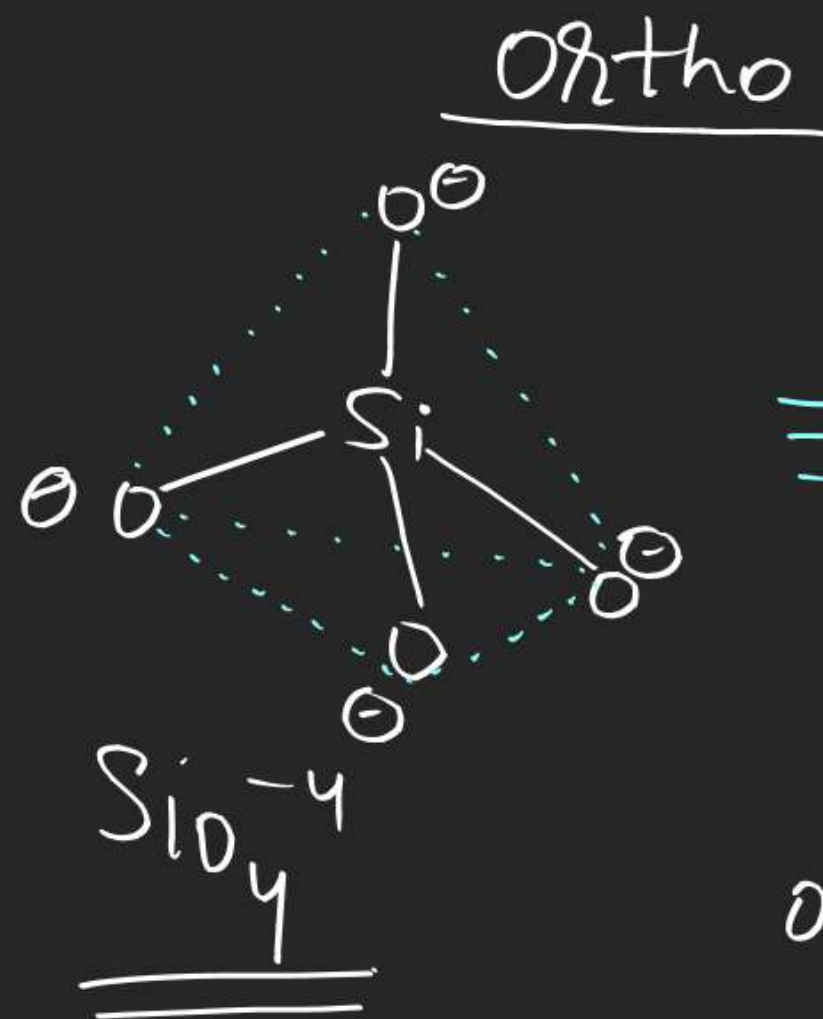
# CHEMICAL BONDING

Si does not form  $\pi$  bond  
with oxygen due to its large size  
So it satisfies its covalency with  
oxygen through single bond and  
undergoes in diff. type of silicate

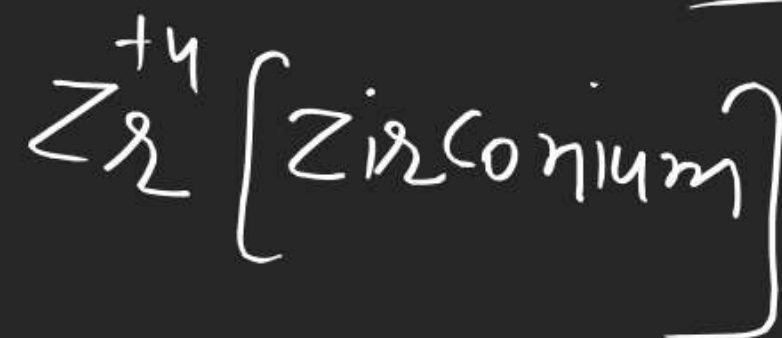
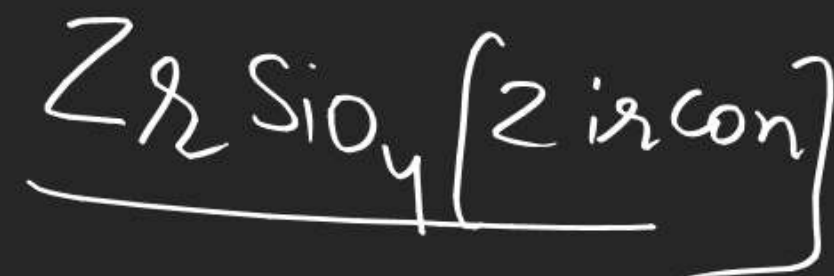
type of silicate

- ① ortho ② Pyro (disilicate) ③ cyclic ④ single chain (pyroxene)
- ⑤ Double chain (Amphibole) ⑥ 2D sheet silicate
- ⑦ 3D silicate

# CHEMICAL BONDING

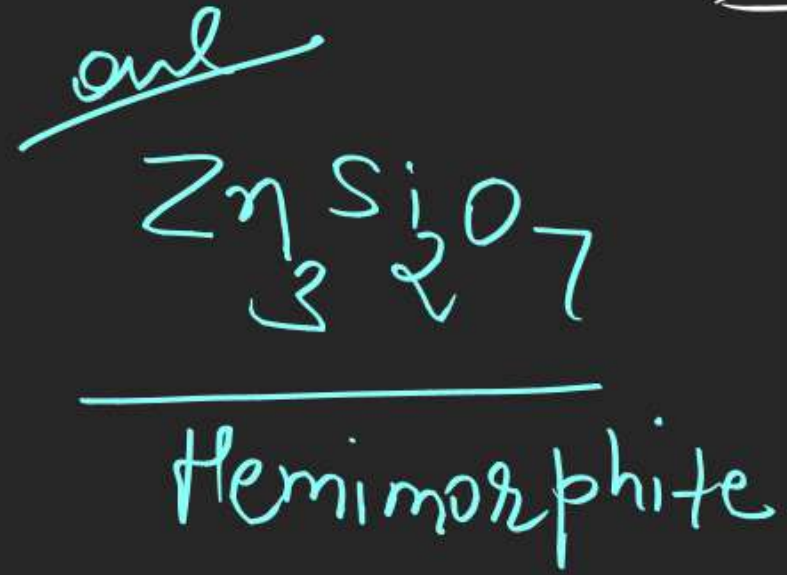


unit =  $\text{SiO}_4^{-4}$

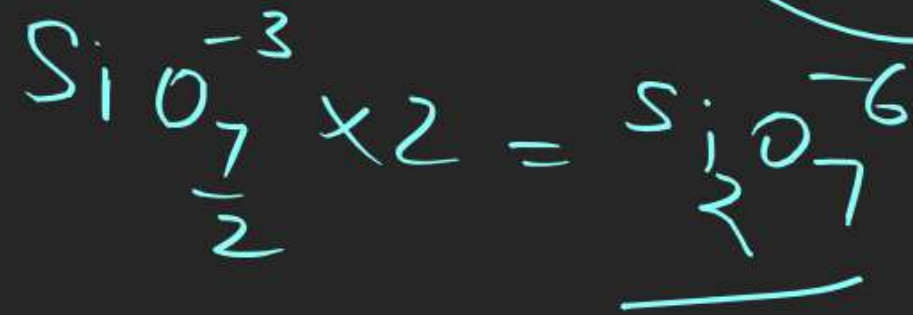
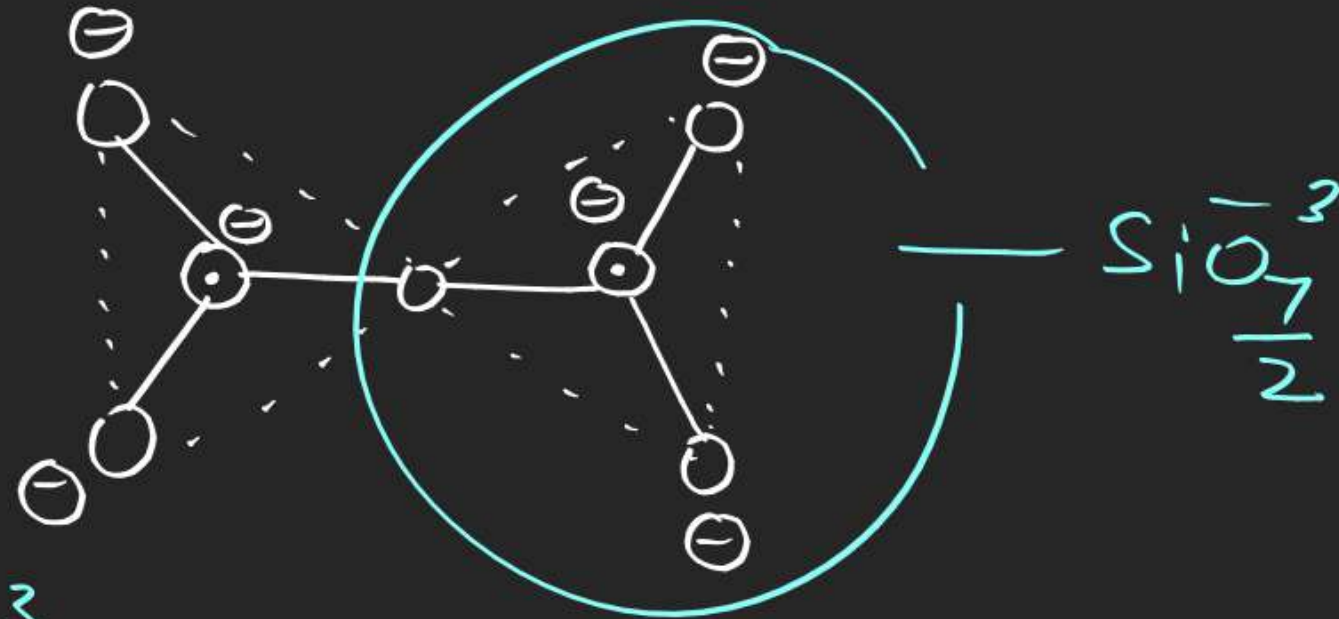


Ortho silicate  $\rightarrow$  Portland Cement  
Component

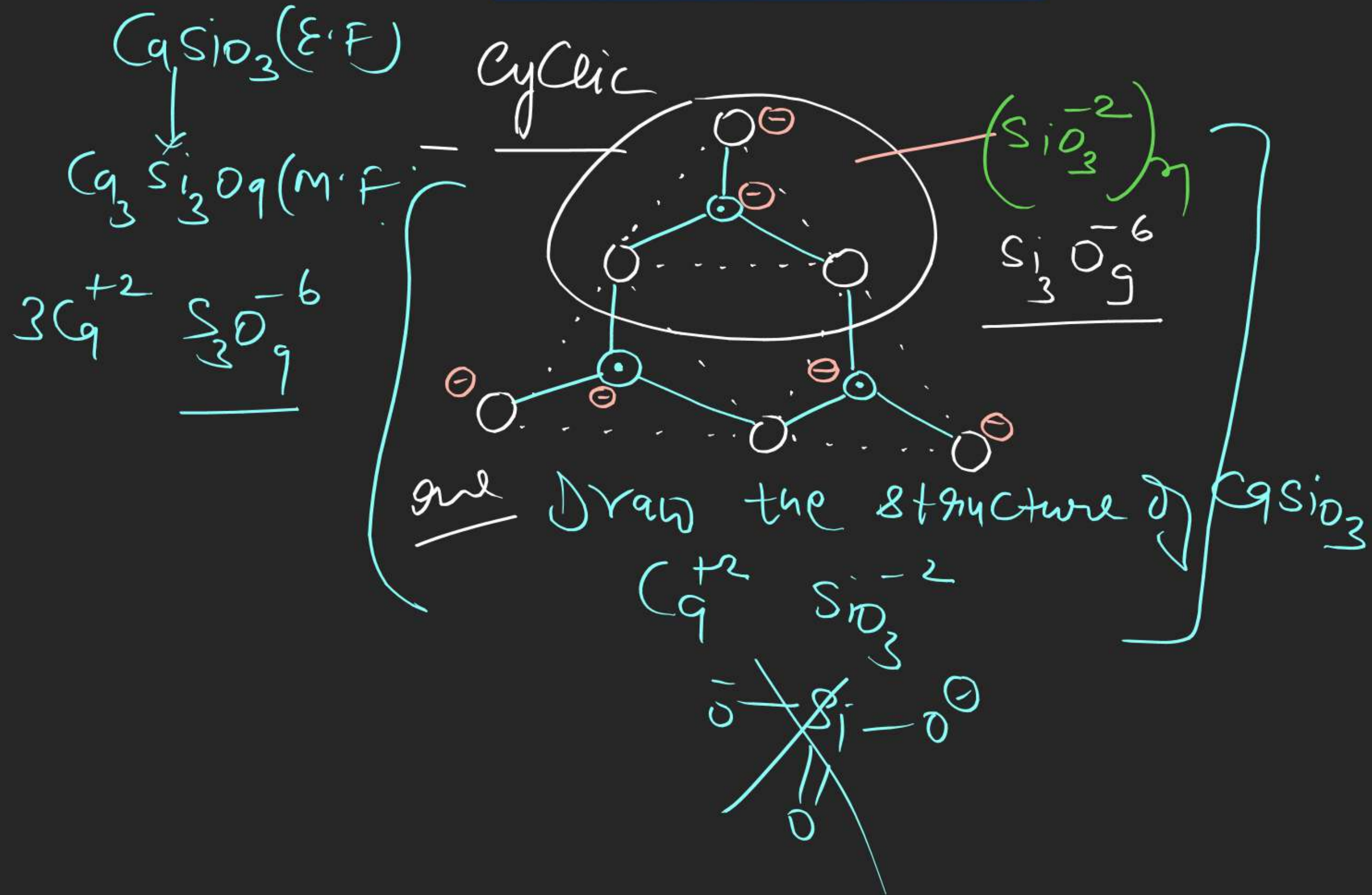
# CHEMICAL BONDING



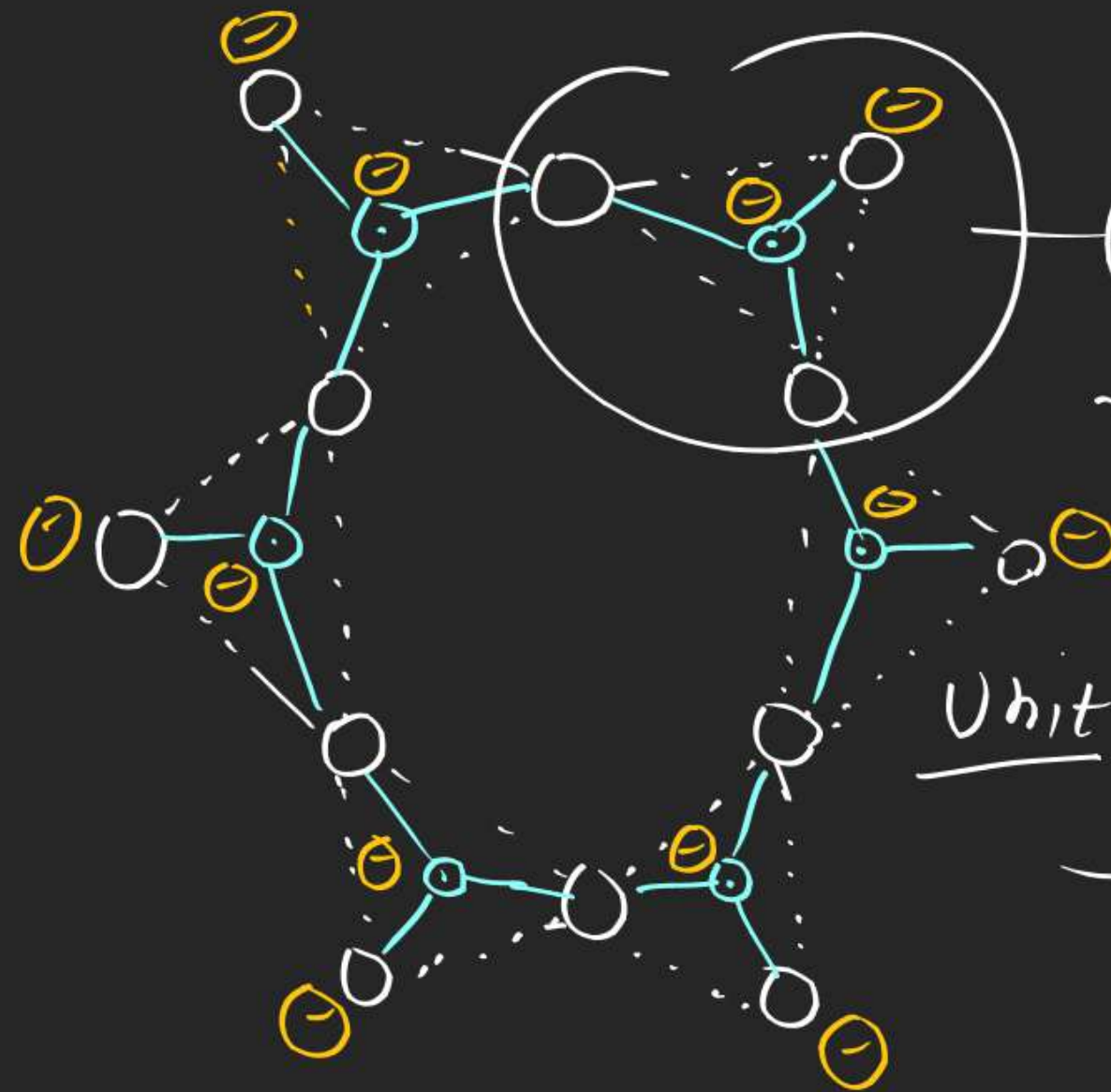
Pyro



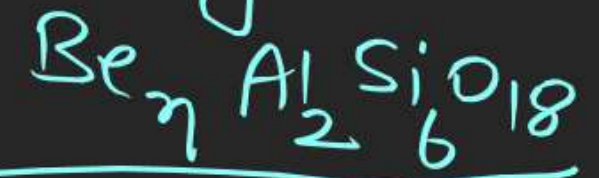
# CHEMICAL BONDING



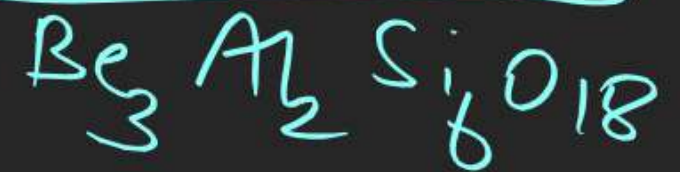
# CHEMICAL BONDING



Ques find the value of  $n$   
in Beryl (Emerald)



$$n = ? = 3$$



$$n = 6$$

