

CHEMICAL BONDING



Ion-Induced dipole

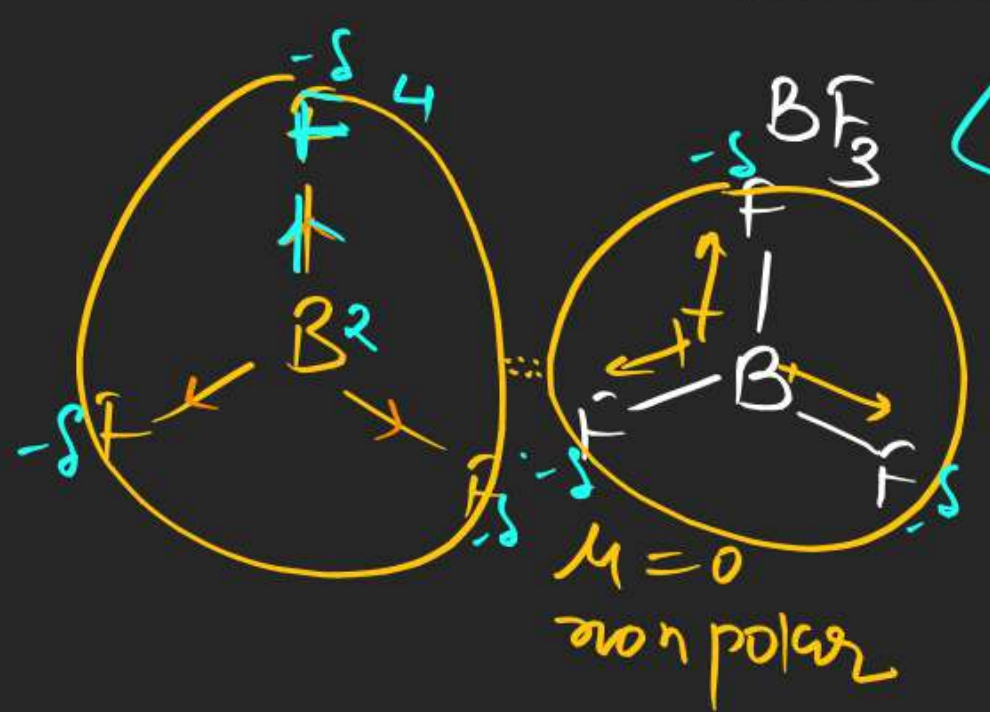
$$B.P \propto \text{mol. wt.}$$

$$B.P \propto \text{att. b/w molecule}$$

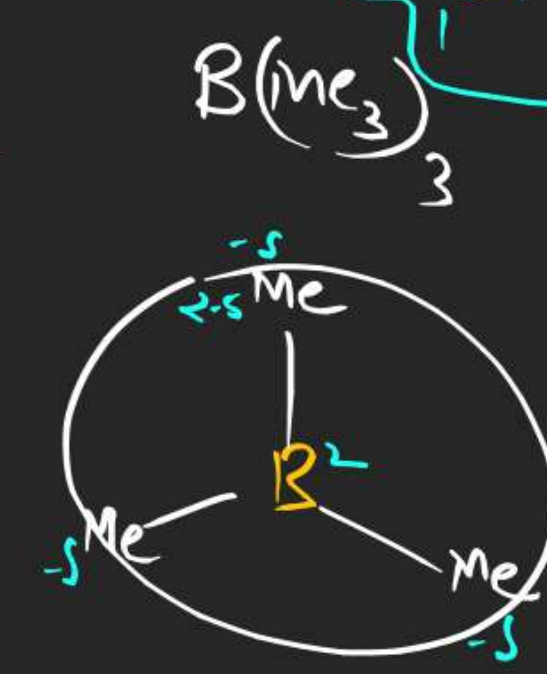
Order of B.P

E.N values

2.1 H							
Li	Be	B	C	N	O	F	
1	1.5	2	2.5	3	3.5	4	
							Cl
							3

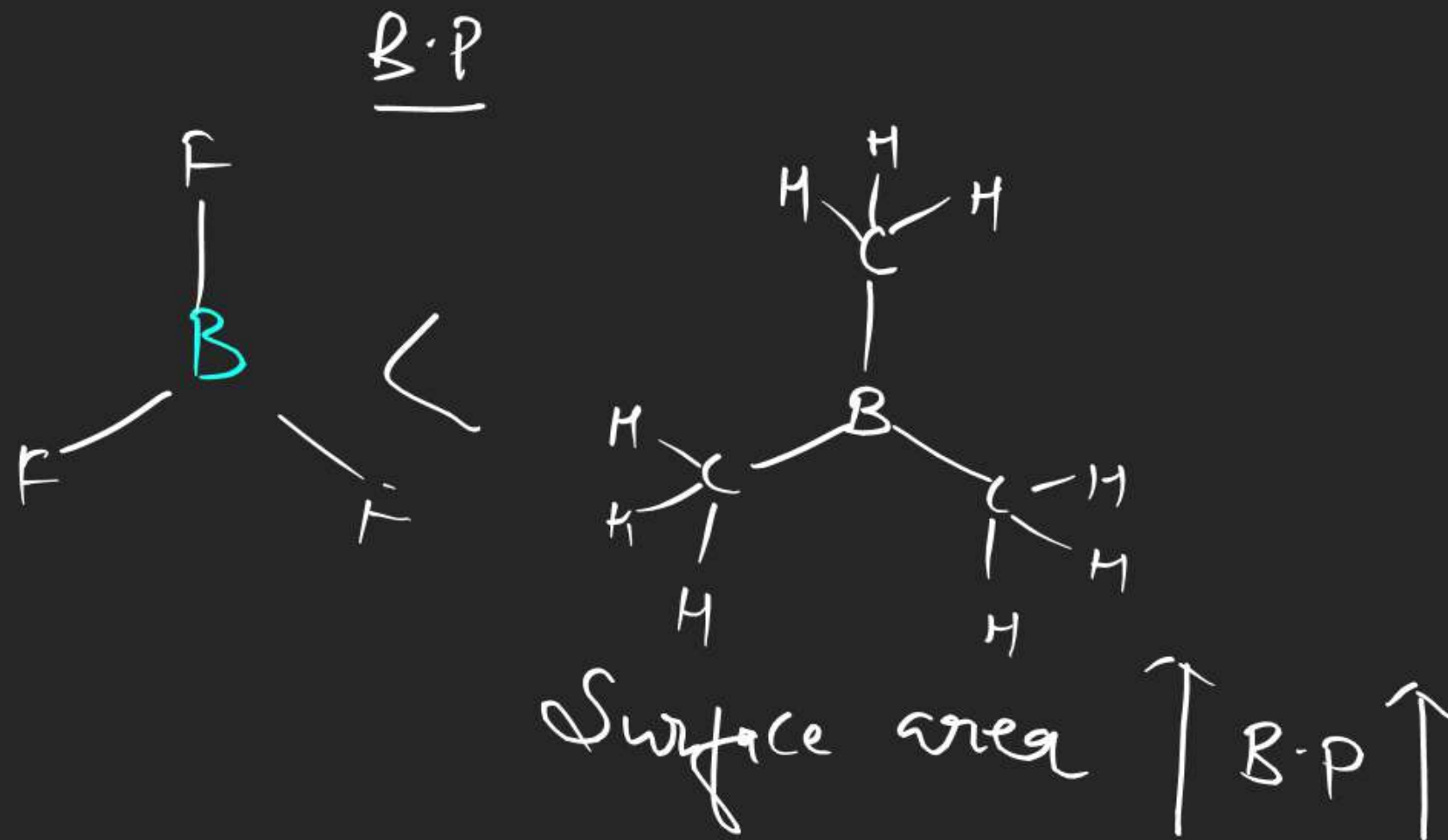


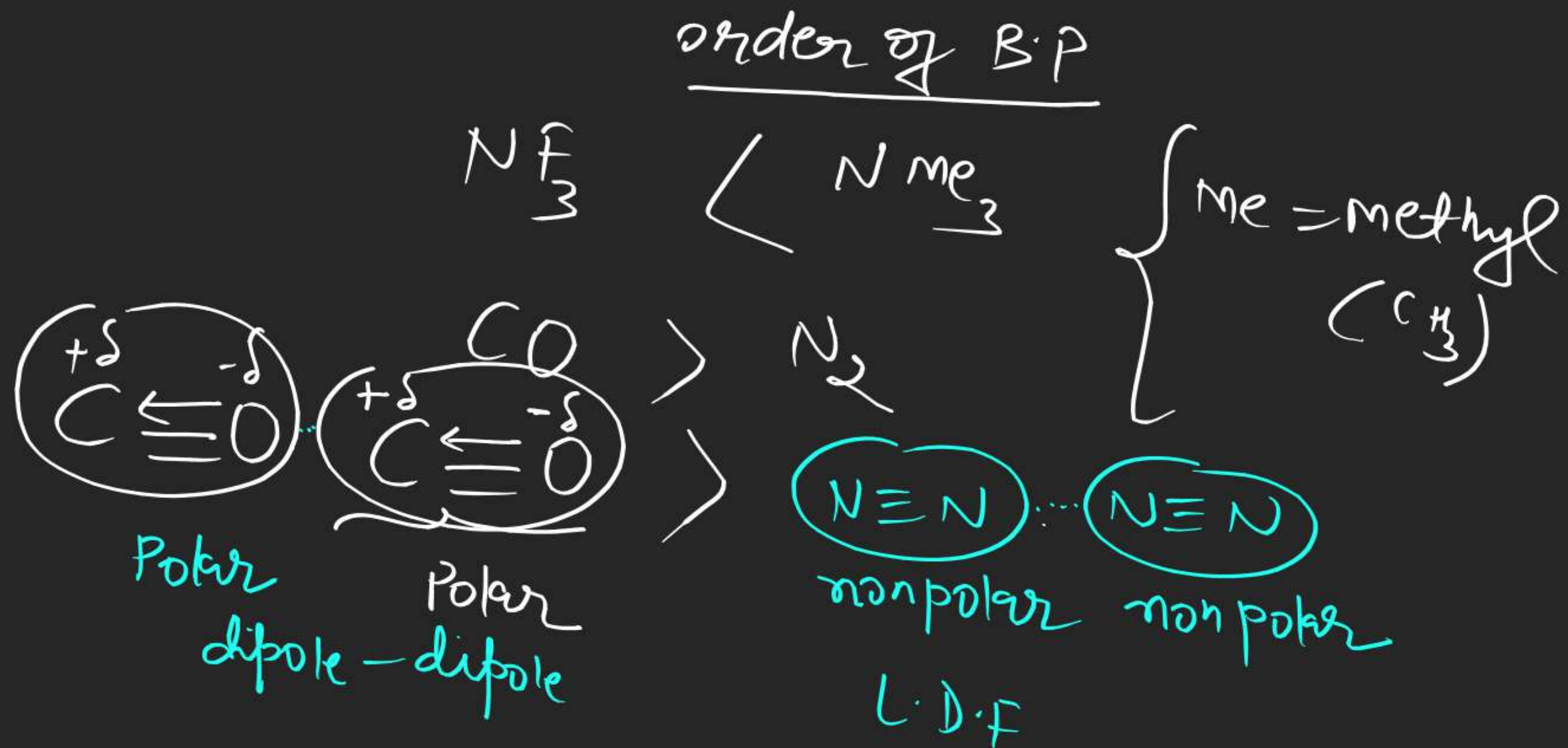
L.D.F

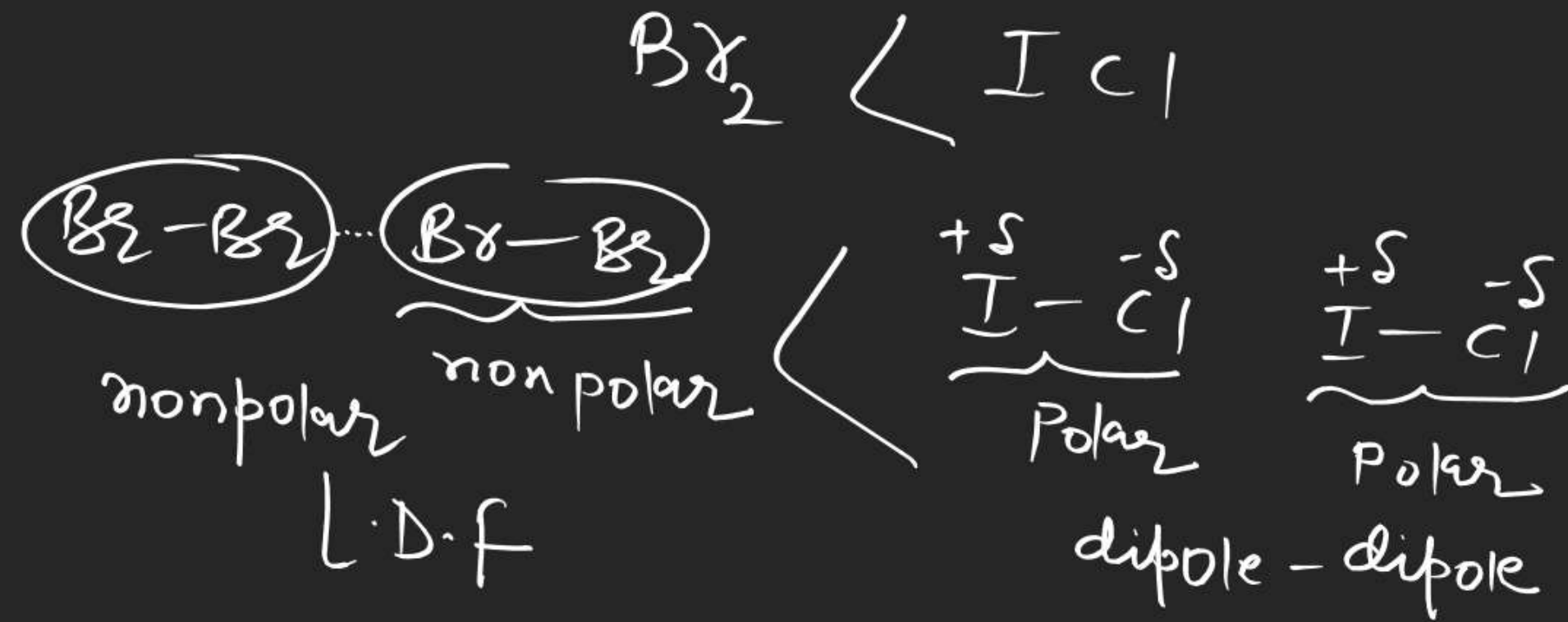


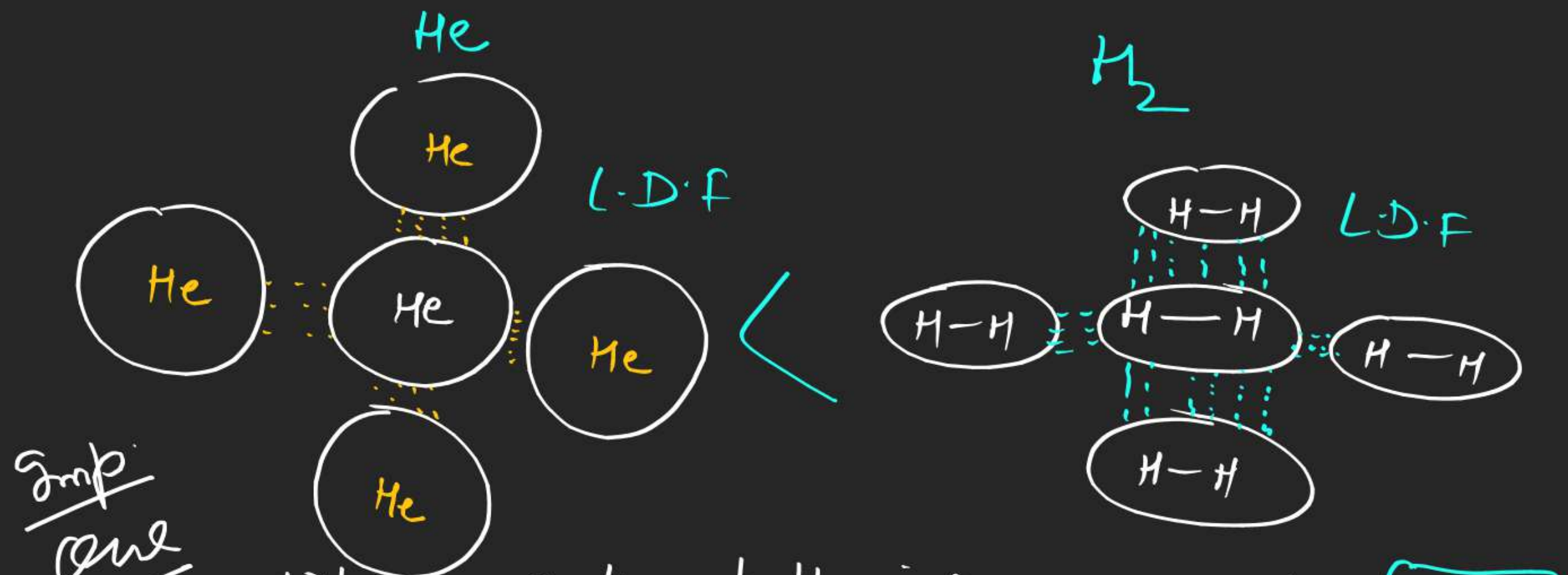
L.D.F





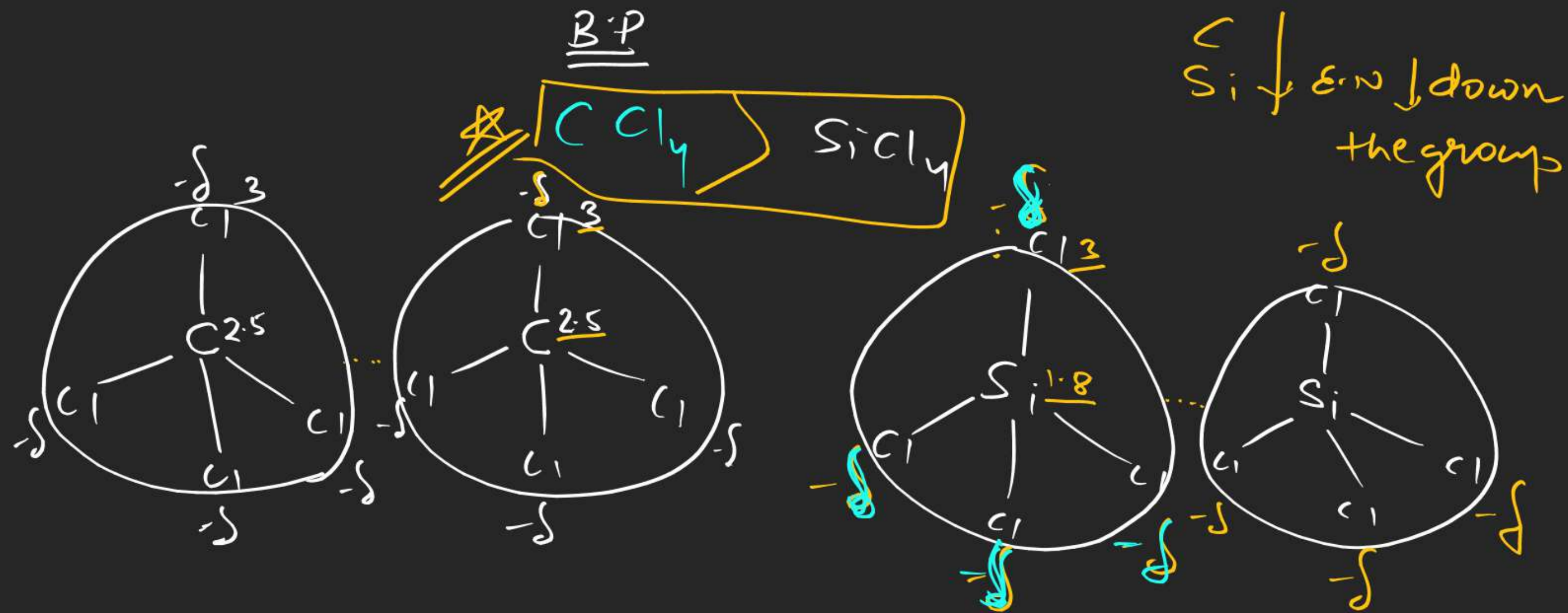


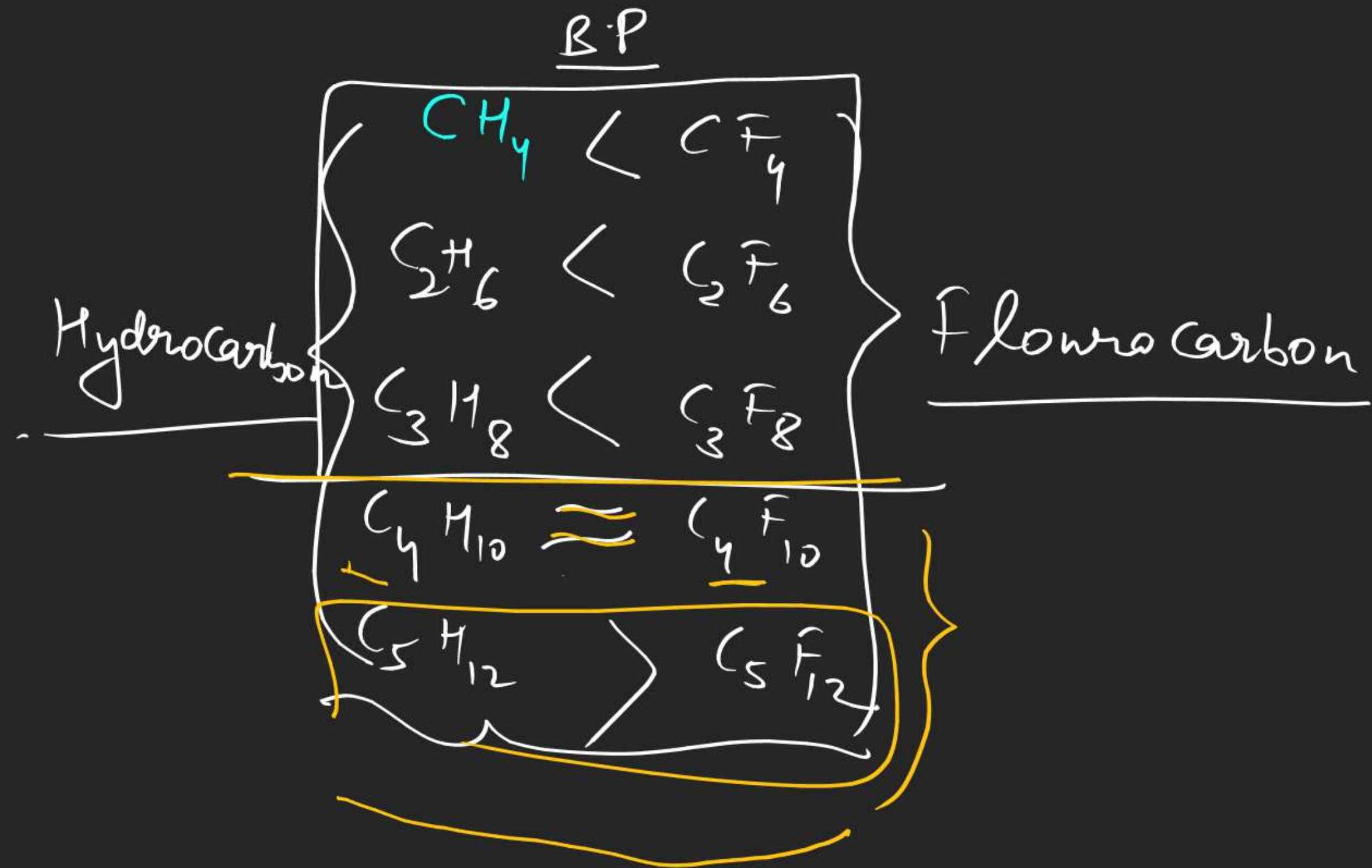




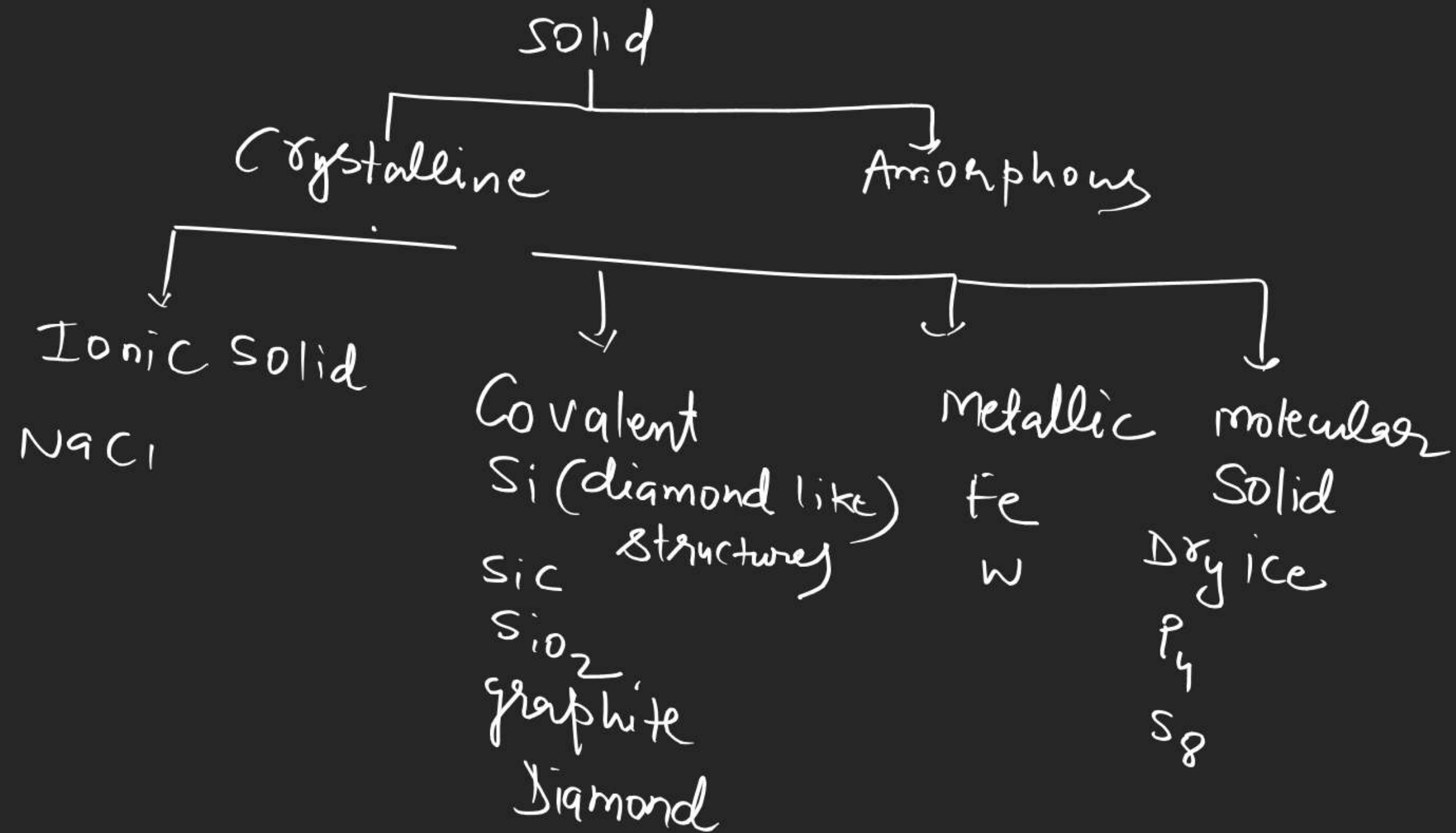
Which of the following molecule has lowest enthalpy of fusion

- (A) H₂ (B) F₂ (C) Cl₂ (D) He





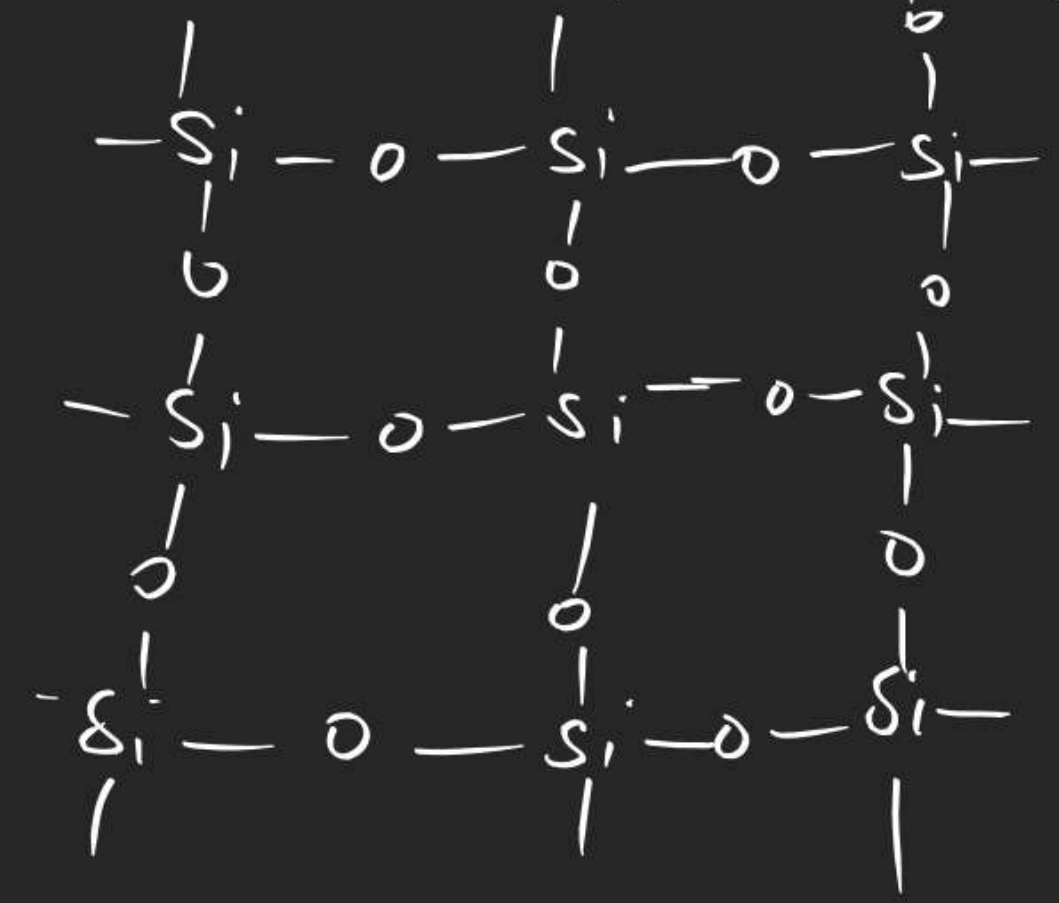
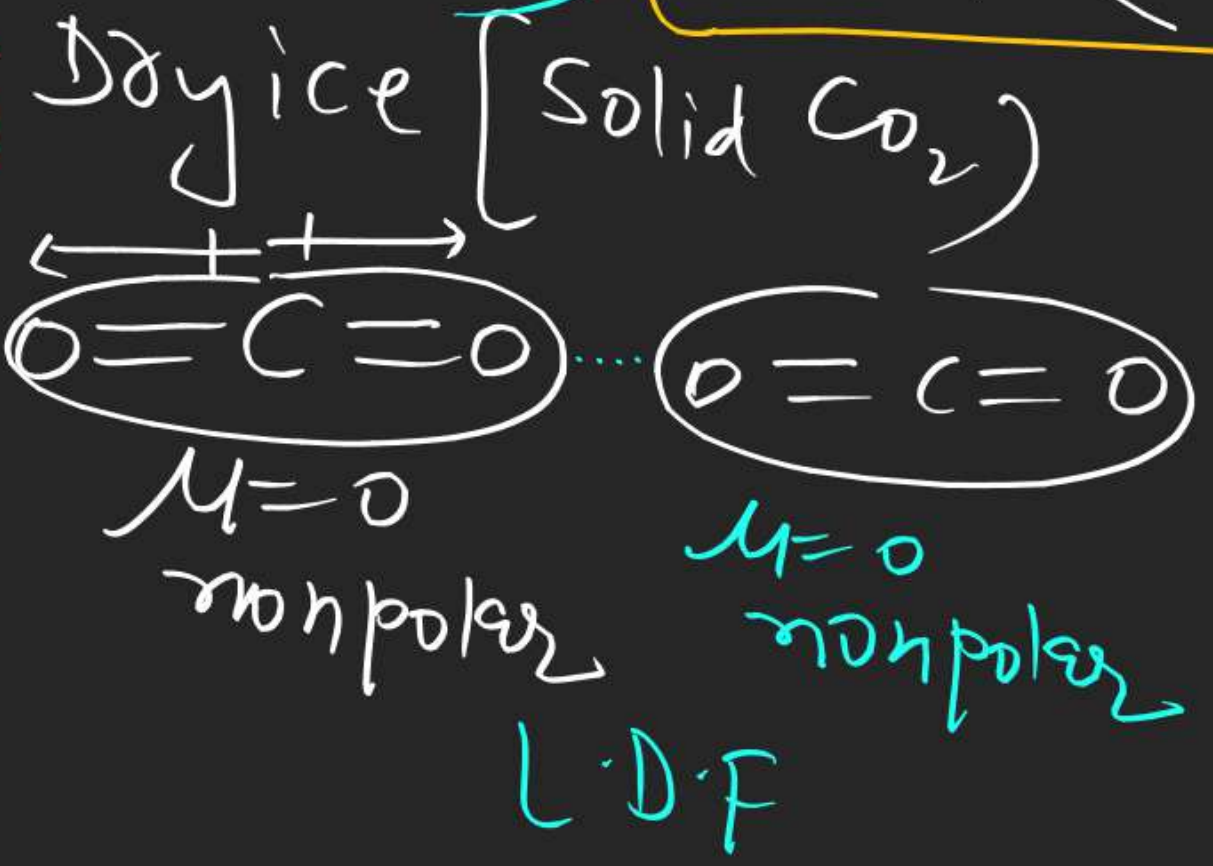
Note → fluorocarbon very often show
lower or equal B.P than
corresponding hydrocarbon having
much lower molecular weight -



m.p (Ionic) (Covalent)

$\left\{ \begin{array}{l} \text{NaCl} > \text{LiCl} \end{array} \right.$

(molecular solid) $\left\{ \begin{array}{l} \text{NaCl} < \text{SiO}_2 \text{ (sand)} \end{array} \right.$ 3D network like structure



m.p $\text{NaCl} > \text{Dry ice}$

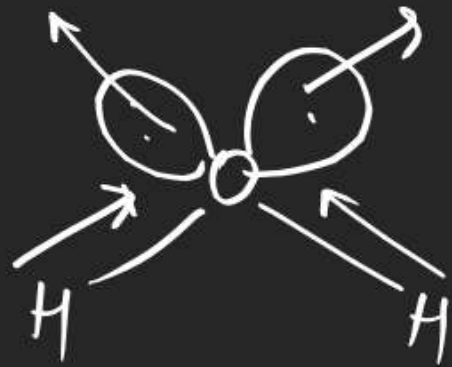
$\text{Dry ice} < \text{LiCl}$
and order of m.p
 $\text{NaCl} \text{ SiO}_2 \text{ Dry ice LiCl}$
 $\text{SiO}_2 > \text{NaCl} > \text{LiCl} > \text{Dry ice}$

que

R-P

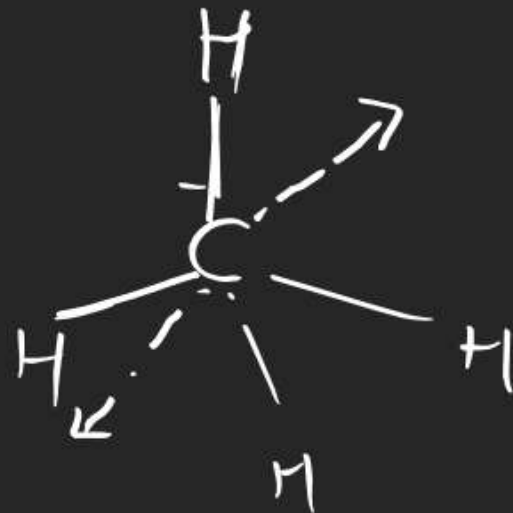


B.p



$\mu \neq 0$

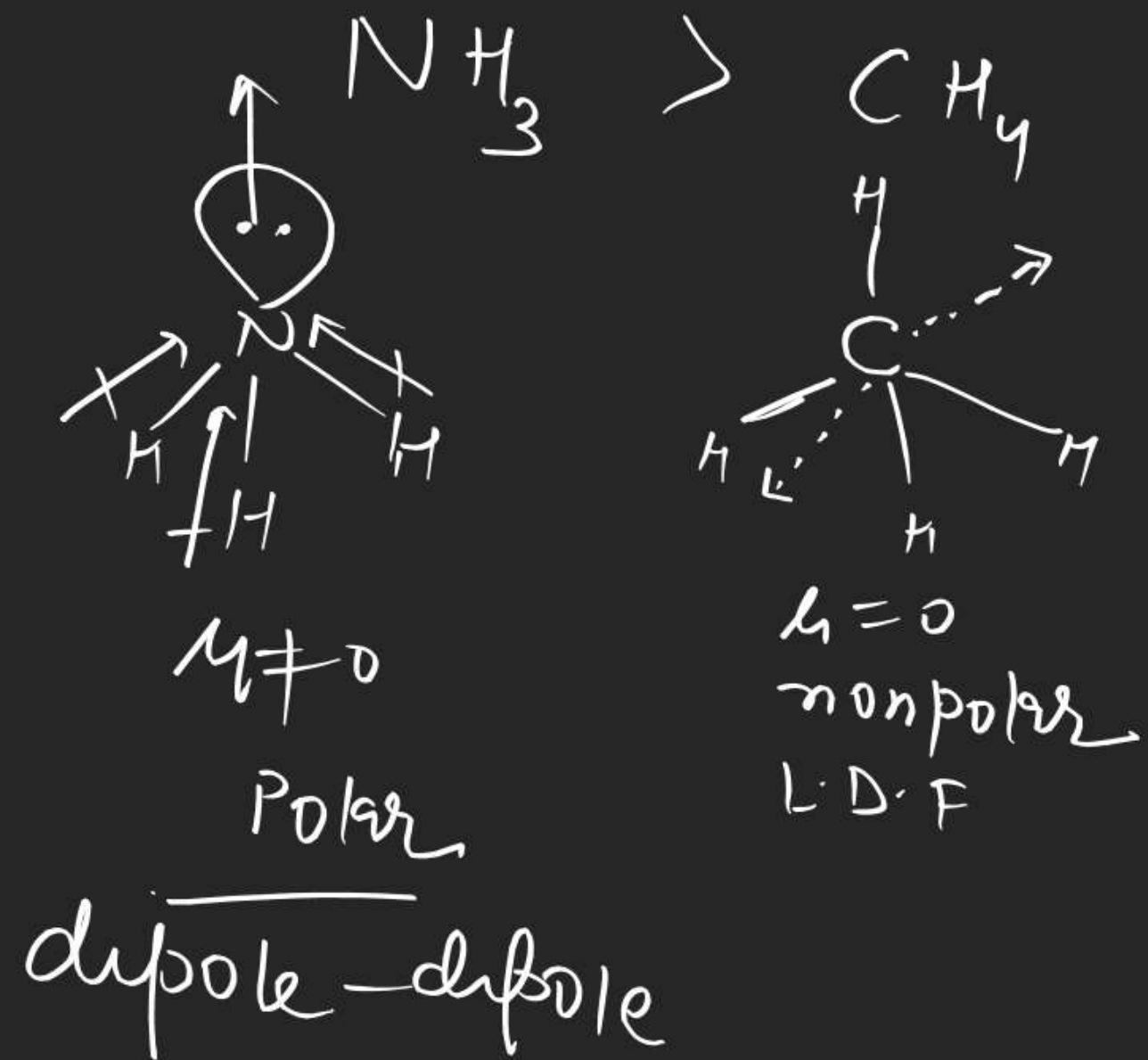
Polar
dipole-dipole



non polar

L.D.f

$\mu = 0$



~~only~~ L.D.F depends upon

- ① molecular mass
- ② polarisable e^-
- ③ size of molecule

~~(4)~~ all of these.

He

Ne

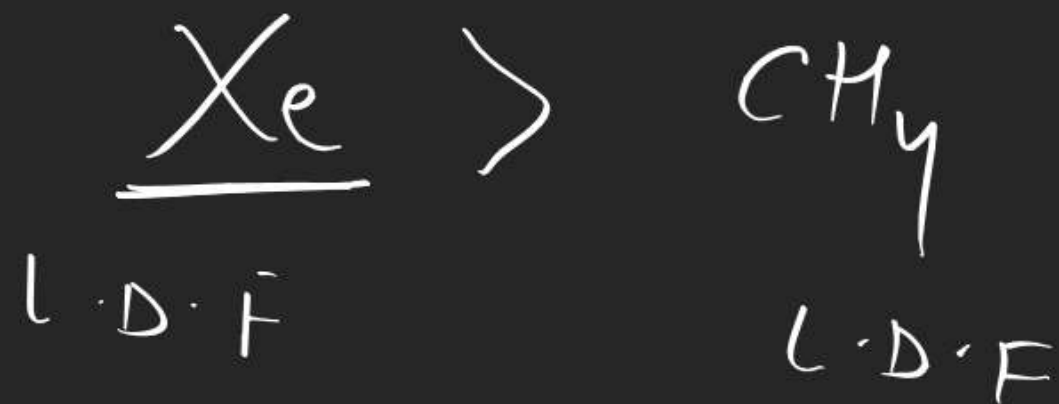
Ar

Kr

Xe



B.P



JEE mains PYQS

Q. Which of the following relation is correct regarding this

$$\text{interaction energy} \propto \frac{1}{r^3}$$

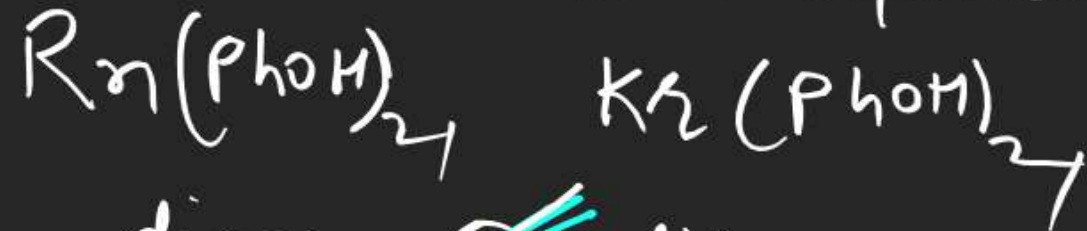
(1) Ion-dipole (2) Ion-induced dipole

(3) Hydrogen bonding (4) none

Note \Rightarrow Hydrogen bonding is special case of dipole-dipole interaction.

one

which of the following interaction is responsible for



- (1) dipole - dipole ✓
 (2) dipole - induced dipole
 (3) Ion - dipole
 (4) none



