

Covalent Bond :- It is formed by mutual sharing of valence e⁻ b/w 2 atoms having same or nearly same electronegativity.

Non-polar Covalent Bond :-

→ Formed b/w 2 atoms to which have same electronegativity.

→ Mainly non-metals.

H₂, Cl₂, N₂, O₂

Polar Covalent Bond :-

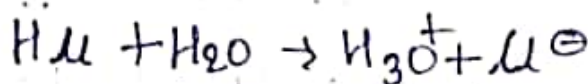
→ Formed b/w atoms which have diff. & EN.

$\Delta EN. < 1.7 \rightarrow$ Covalent chⁿ

$\Delta EN. > 1.7 \rightarrow$ ionic

eg Gaseous HCl \rightarrow ~~ionic~~ covalent

Aq. HCl \rightarrow ionic



Characteristics of Covalent Compd :-

1. Physical state:

Normally \rightarrow gs & liquid

Solid: diamond, SiO₂, Carborandun, SiC, ALN

2. Conductivity: They are non conductor of e^- electricity.

Excp Graphite is good conductor of electricity due to mobile πe^-

3. Solubility: -

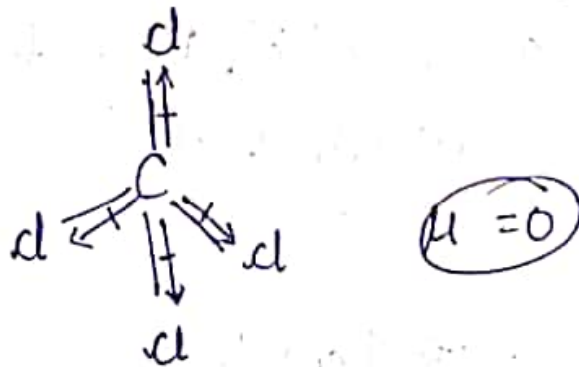
Principle: "like dissolve like"

Polar is dissolved in polar solvent

non-polar ——— non-polar solvent

Covalent Comps are mainly non-polar

So they are dissolved in non-polar solvents like Benzene, C_6H_6 , CS_2



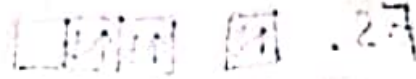
Note: I_2 is non-polar solid but its solubility \uparrow ses in water when it is added to KI.



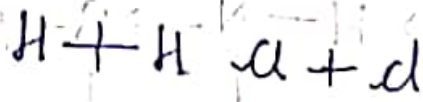
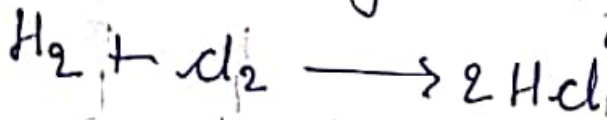
~~I_2 is non-polar solid but its solubility~~

4. Isomerism :- They are directional so they show isomerism

Cg Organic Compds.

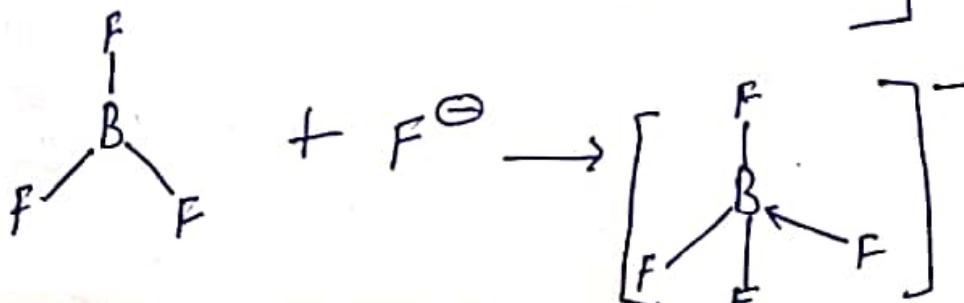
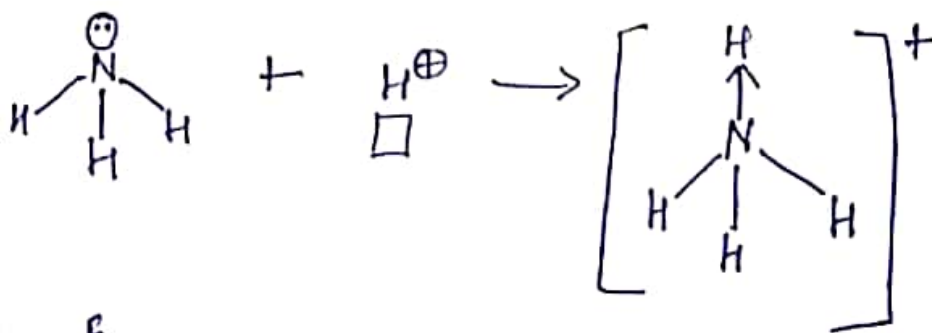
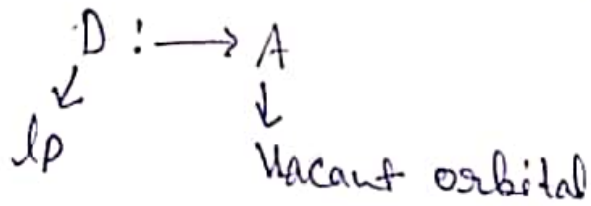


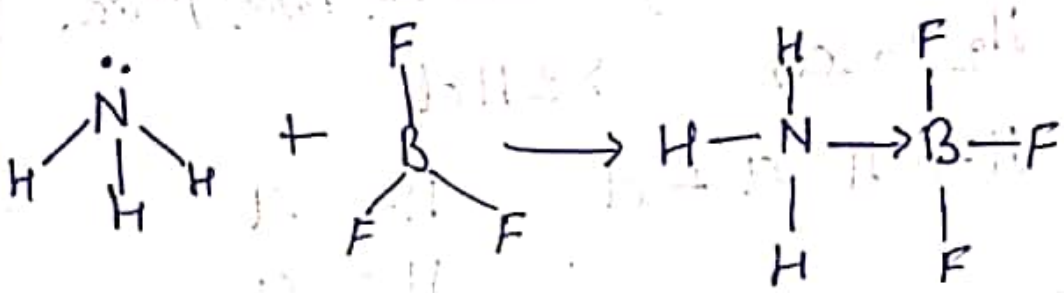
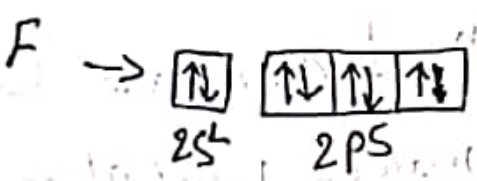
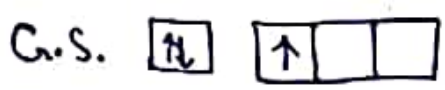
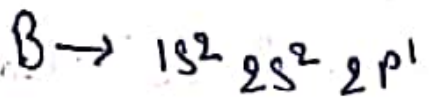
5. Reactivity :- Reactions of C-C are slow because bond breaking & making takes place.



Coordinate bond :-

It is a simple covalent bond which is formed by contribution of e⁻ pairs from single atom





Covalent bond similar property to coordinate bond.