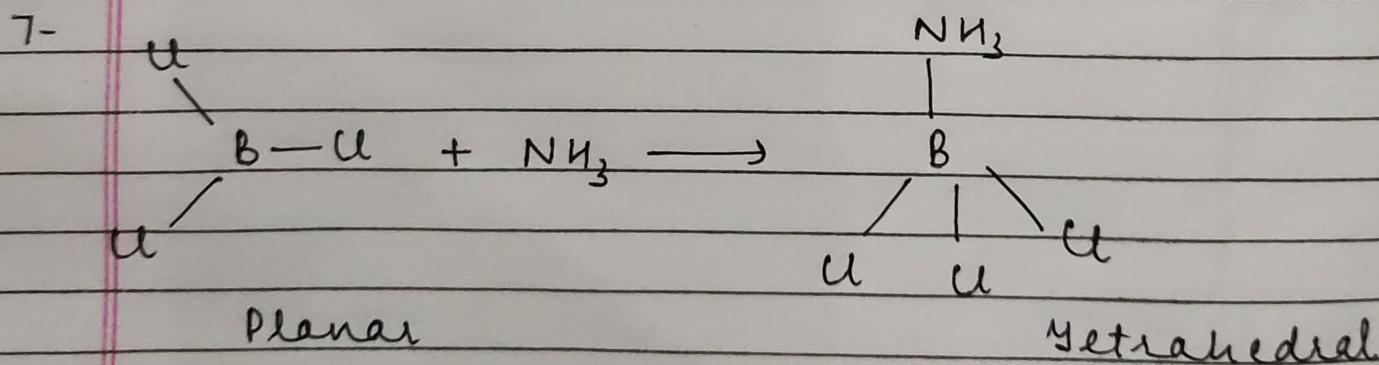
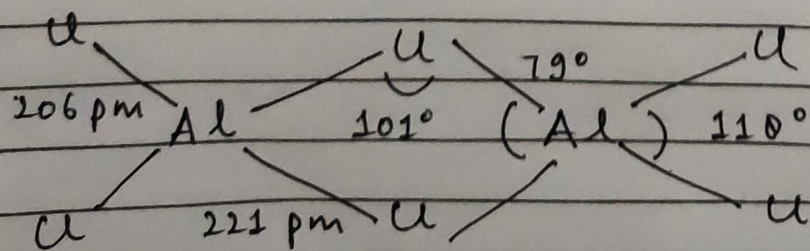


Group-13 Elements

- 1- Electronic configuration is $ns^2 np^1$
- 2- Atomic radii of Ga < Al due to screening effect.
- 3- Order of Ionisation Energy is (1^{st} IE)
 $B > Tl > Ga > Al > In$.
- 4- Electronegativity first increases from B to Al and then increases marginally.
- 5- Stability of +1 oxidation state is in the order
 $Al < Ga < In < Tl$
- 6- Tendency to behave as Lewis acid decreases down the group due to increase in size.



- 8- $AlCl_3$ achieves stability by forming a dimer



9- Aluminium chloride in acidified aqueous solutions forms octahedral $[Al(H_2O)_6]^{3+}$ ion.

In this complex ion, 3d orbitals of Al are involved and hybridisation state of Al is sp^3d^2 .