

8/2/24

B.Sc Part-III
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DATE: 08/2/24
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Intramolecular H-bonding: -

Hydrogen bonding occurs within a single molecule is called Intramolecular H-bonding. In intramolecular H-bonding the H-atom is bonded to two atoms of the same molecule. This type of hydrogen bond may lead to the linked with two groups to form a ring structure.

eg: - o-nitrophenol, Salicylic acid.
o-nitro-hydroxybenzaldehyde.

Compounds having H-bond: -

eg: - H_2O (l) (high b.p)
 HF (l) (high b.p),
 NH_3 (g) (high b.p)
 CH_3OH (l) } All are soluble in water.

Compounds having no hydrogen bond:

eg: (1) H_2S (g) (low b.p)
 HI (g) (low b.p)
 PH_3 (g) (low b.p)
 CH_4 (g) (low b.p)
 PH_3 , CH_4 etc. are insoluble in water.