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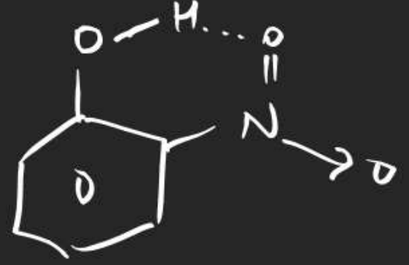
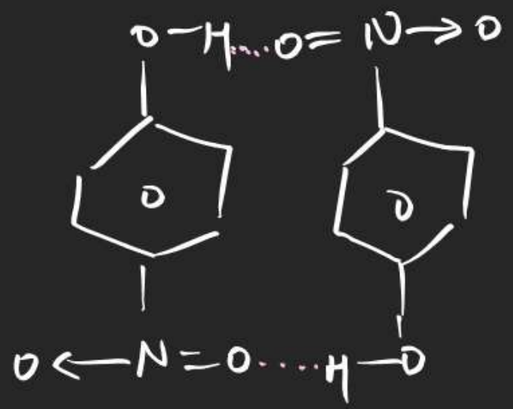
que B.P of ortho nitrophenol less than P-nitrophenol why?

→ due to Intermolecular H-Bonding



Chelation



Association

Ques B.P of HF is higher among the Halogen acids Why

HF HCl HBr HI

HF > HI > HBr > HCl

due to H Bonding

B.P ∝ Mol. Mass

B.P ∝ att. b/w molecule

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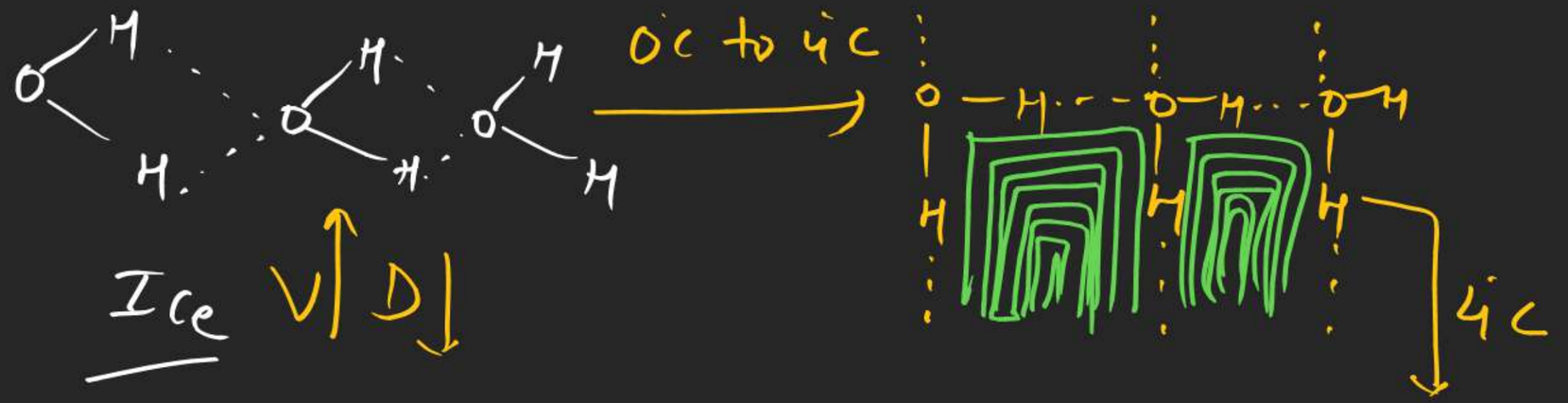
Qué density of water is maximum at 4°C Why



Ice V↑ D↓

One water molecule ⇒ 4 H-Bonding

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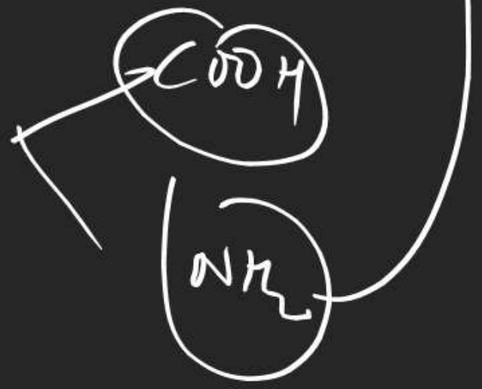
Wood Stick use to Hold ice cream Why?

Wood — Cellulose — Polymer of glucose → OH group

milk → Prot



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Only KHF_2 exist but $KHBr_2$ and KHI_2 donot exist Why?

KHF_2
Ionic
Covalent
H-Bonding

K^{+} $HF_2^{\ominus}$

Ionic bond

$KHBr_2$ and KHI_2

donot exist
due to absence of H-Bonding

$HF_2^{\ominus}$

$F^{\ominus} \cdots {}^{+\delta}H - {}^{-\delta}F$

Ion – dipole (H-Bonding)

$KHCl_2$ does not exist

but $HCl_2^{\ominus}$ ion exist with large size of cation

$CSHCl_2$

$\overset{+}{N}O\,H\,\overset{-}{Cl}_2$

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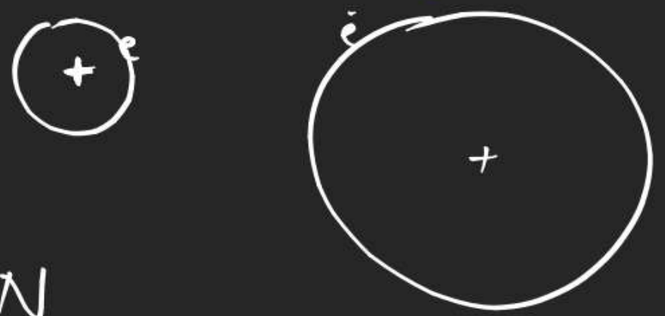
N and Cl both have similar E.N but N can form Hydrogen bonding and Cl can not

Why?

$E.N_N \simeq E.N_{Cl}$



N

Cl

Z_{eff} of N > Z_{eff} Cl

due to small size

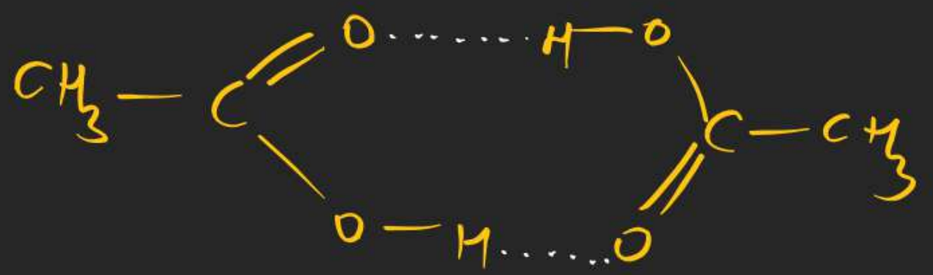
due to small size

H_2O and CH_4 both Have same molecular mass but B.P of Water higher than CH_4 Why?

H_2O → H-Bonding ✓

CH_4 ⇒ no H-Bonding

Ans Molecular mass of CH_3COOH is just Double Why?



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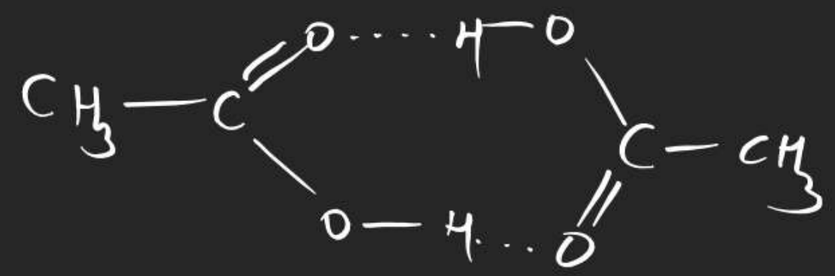
Ans Experimently molecular mass of CH_3COOH is just double than theortically.

CH_3COOH



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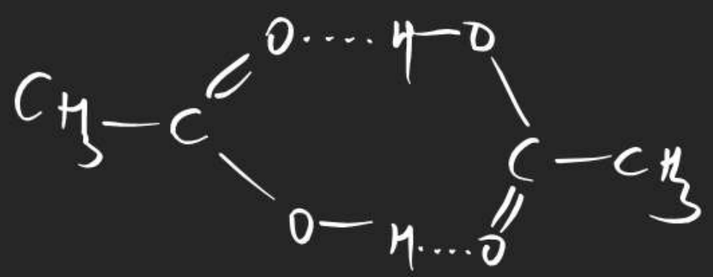
Q/ Molar entropy change of vapourization of CH_3COOH is less than the water. explain?



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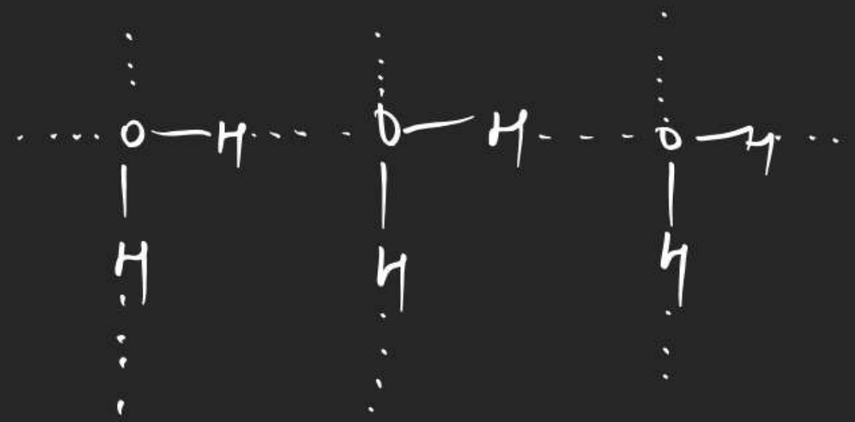
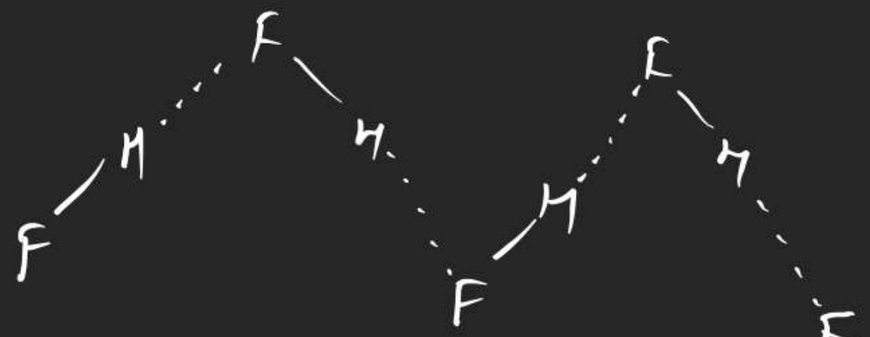
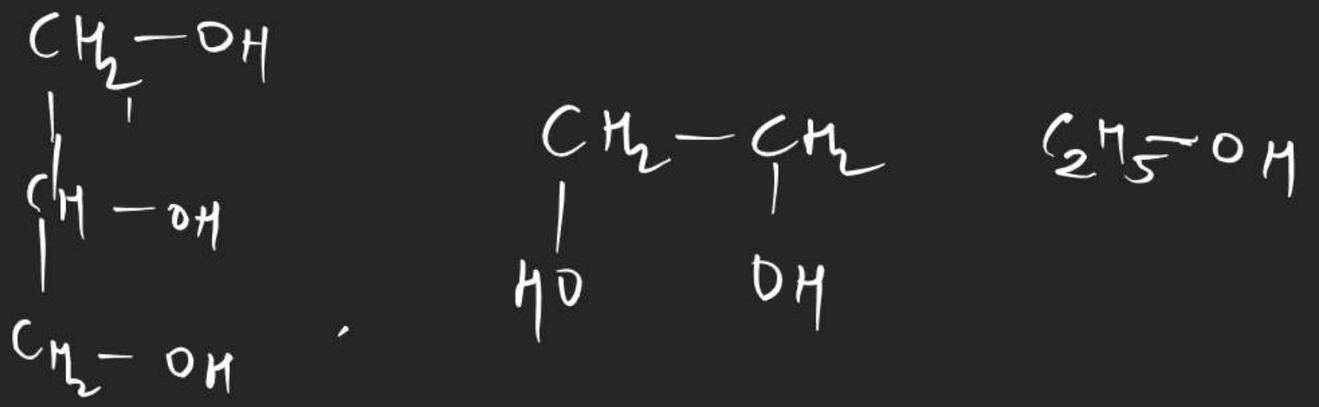
Heat of vapourization of water is higher than HF
However strength of H-Bonding is higher in HF Why?





Zig Zag H-Bonding

Glycerol is more viscous than C_2H_5OH why.



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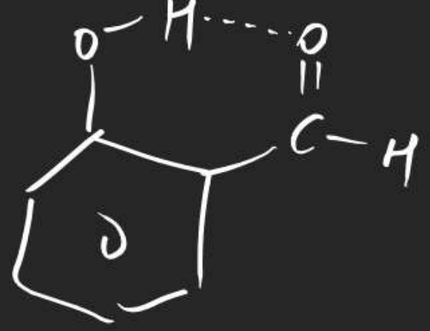
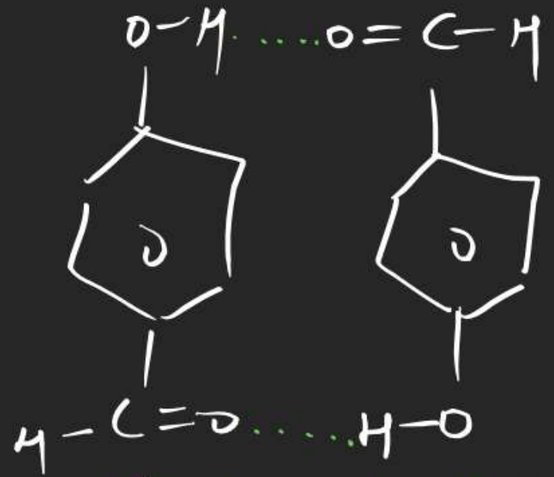
Ans — Ortho hydroxy benzaldehyde is liq. at room temp.
While para hydroxy benzaldehyde is solid at room temp.
Why?



Intra H-Bonding
(Salicylaldehyde)



Intermolecular H-Bonding

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NH_3 is more easily liquefied than HCl why?

due to H Bonding in NH_3

HCl $\longrightarrow$ does not H-Bording

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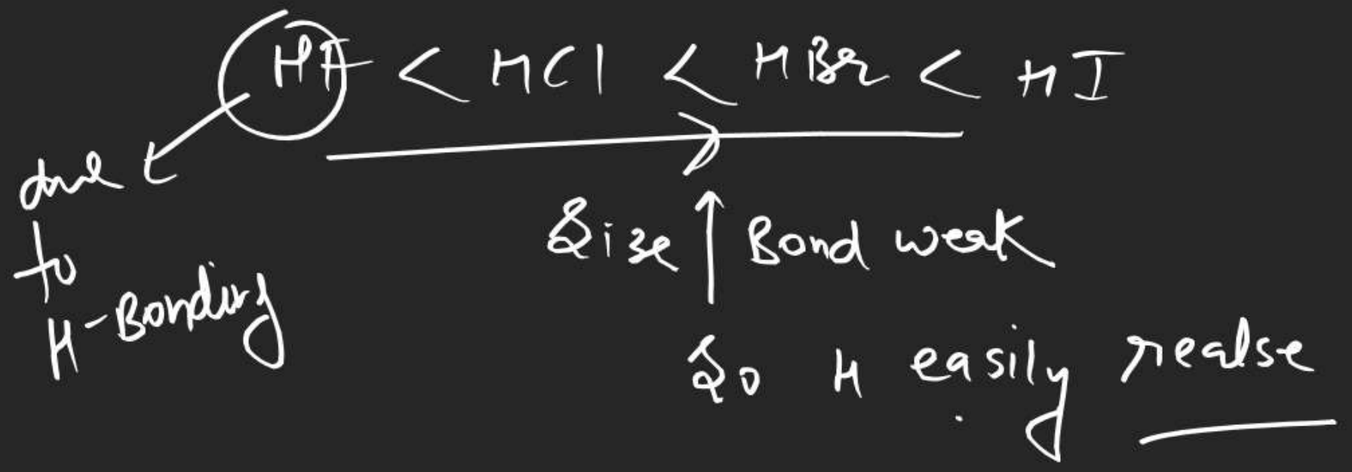
HI is strongest acid among halogen



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and ice floats on water why.