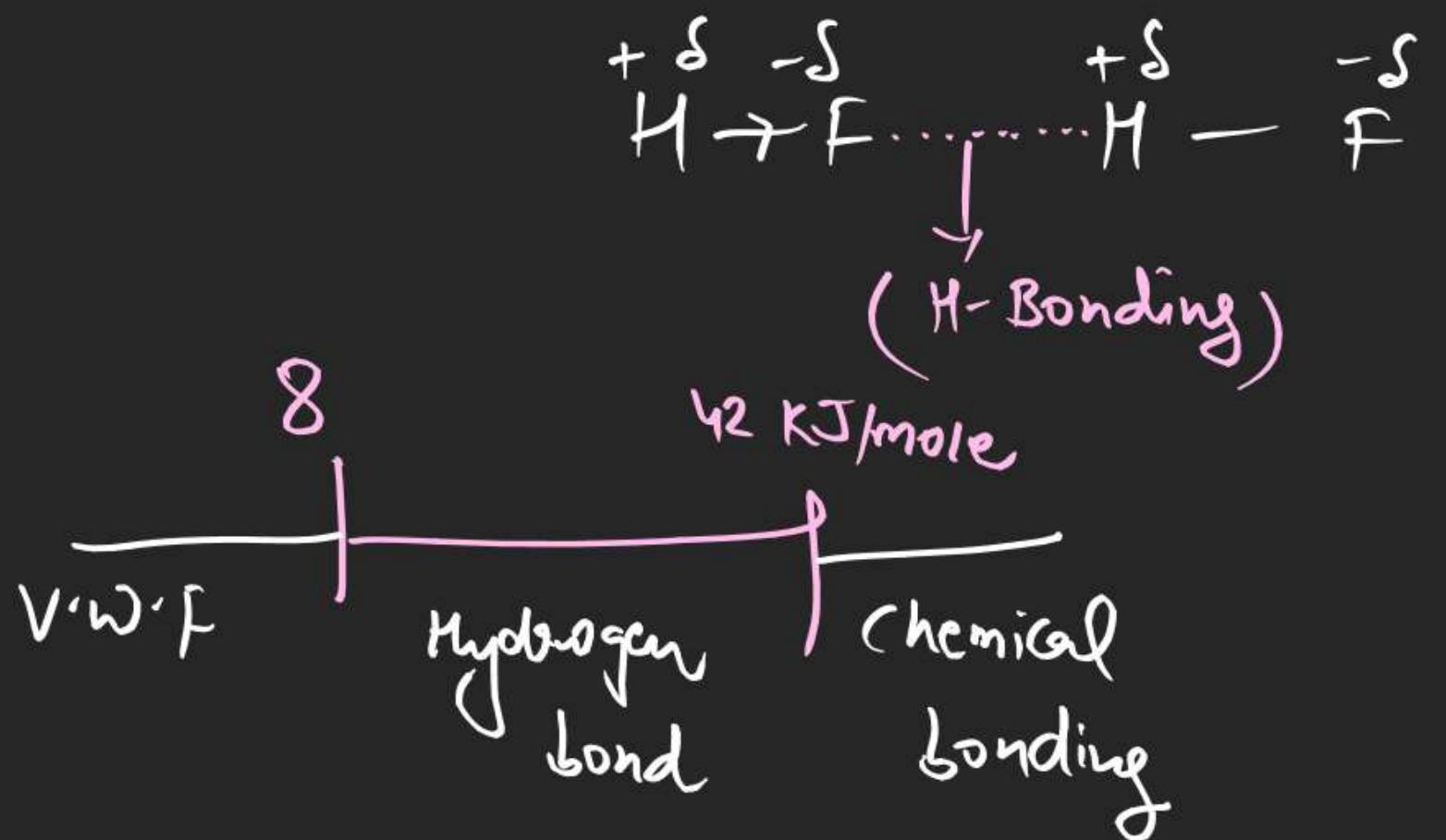


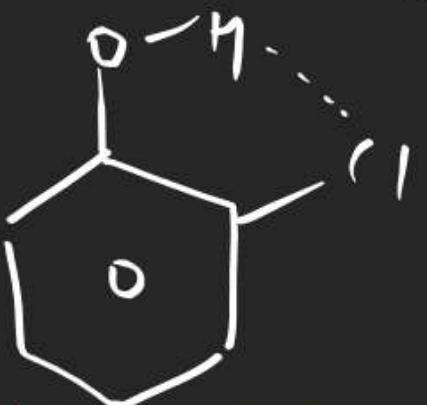
Hydrogen bonding

It is an electrostatics force when hydrogen present between two more electroneg. element

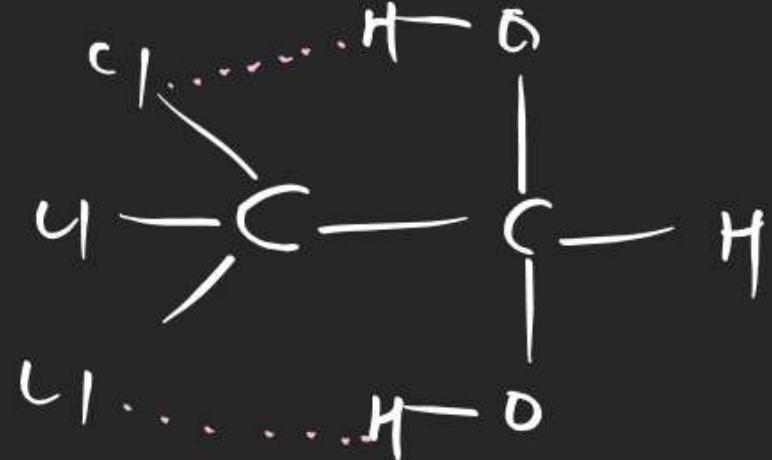


Note \Rightarrow it is not a true bond
 it is electrostatic force

\Rightarrow Hydrogen bond can form F, O, N = C
 and sometimes Cl



Ortho Chlorophenol



Chloral hydrate

Hydrogen bonding type

Intra

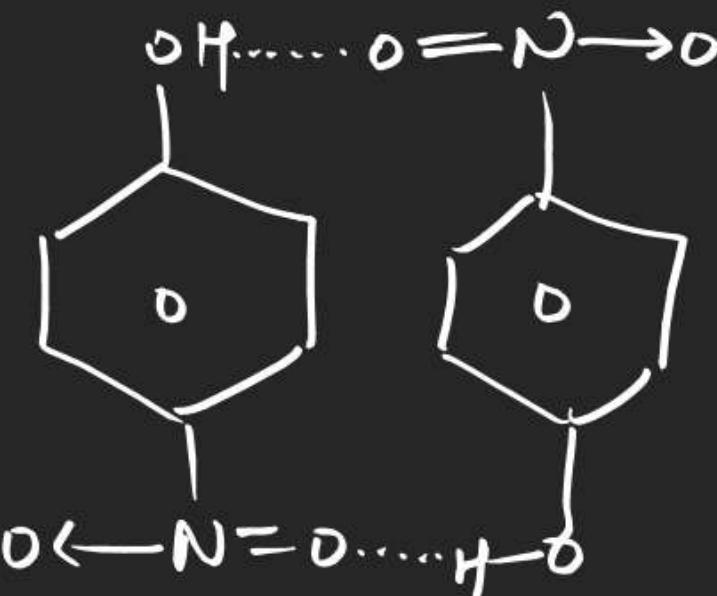
With in molecule

Chelat
Ring



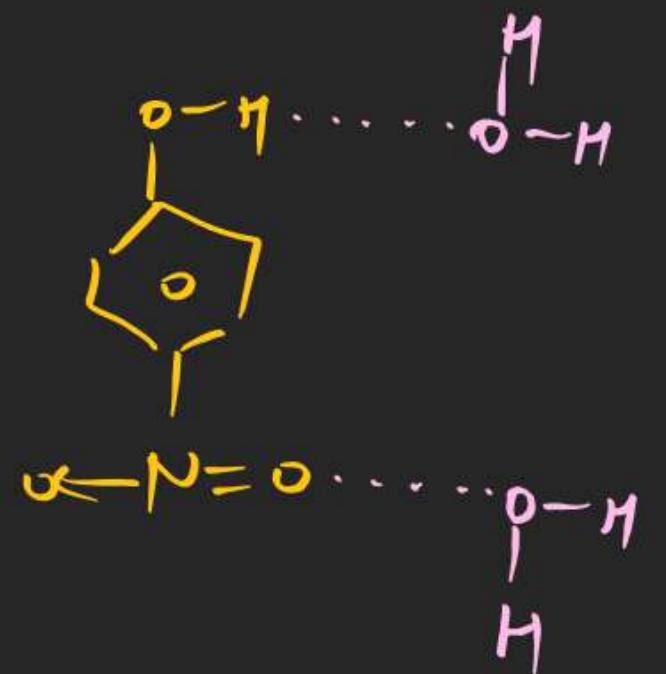
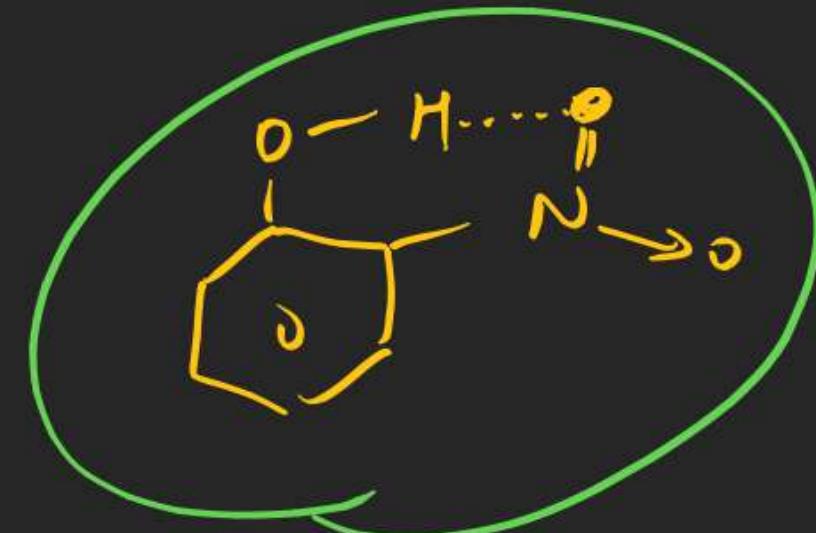
Ortho nitrophenol

between molecule



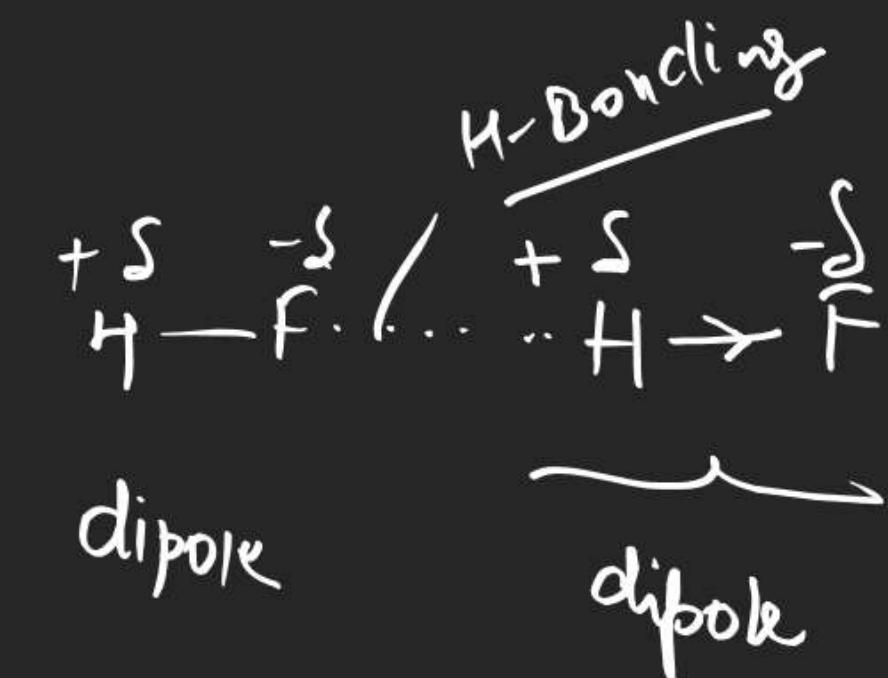
ASSOCIATION process
Para nitrophenol

$\eta \cdot \rho / B \cdot \rho$
 $\Delta H_{vap.}$
Viscosity



Solubility <

Hydrogen bonding is special case
of dipole-dipole Interaction



Type of π -Bonding

unsymm



symm



$B \cdot L$

$$\frac{x < y}{}$$

Ion-dipole

$$x \approx y$$

L

$$f \leftarrow H^{\frac{+S}{-}} F$$

$$f \leftarrow H^{\frac{y}{-}} \cdot 0$$

$$f = H^{\frac{z}{-}} \cdot N$$

$\frac{B \cdot L}{order}$ $x < y < z$
Strength order

$$x > y > z$$

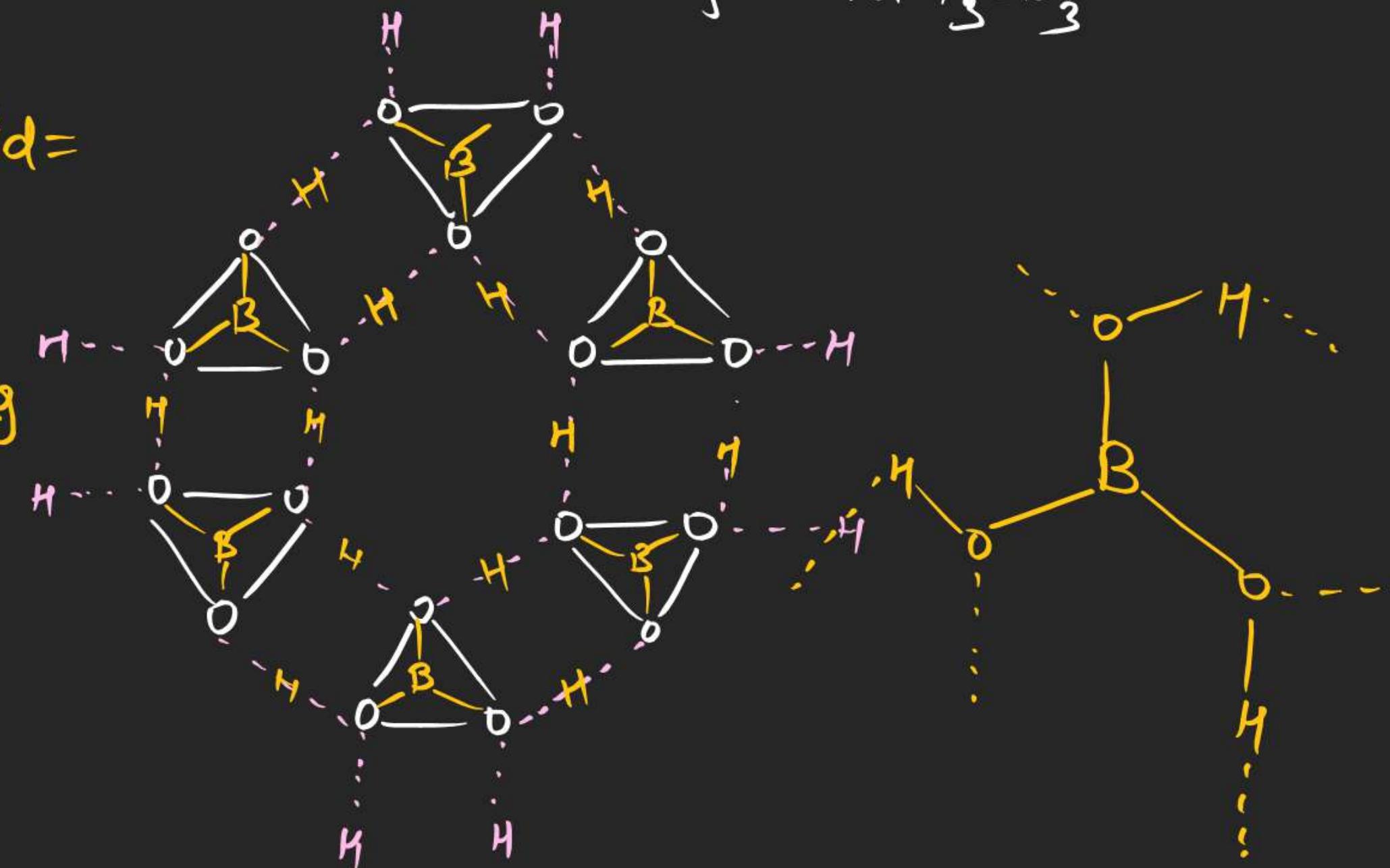
$B \cdot S \propto \frac{1}{B \cdot L}$

Draw the structure of solid H_3BO_3

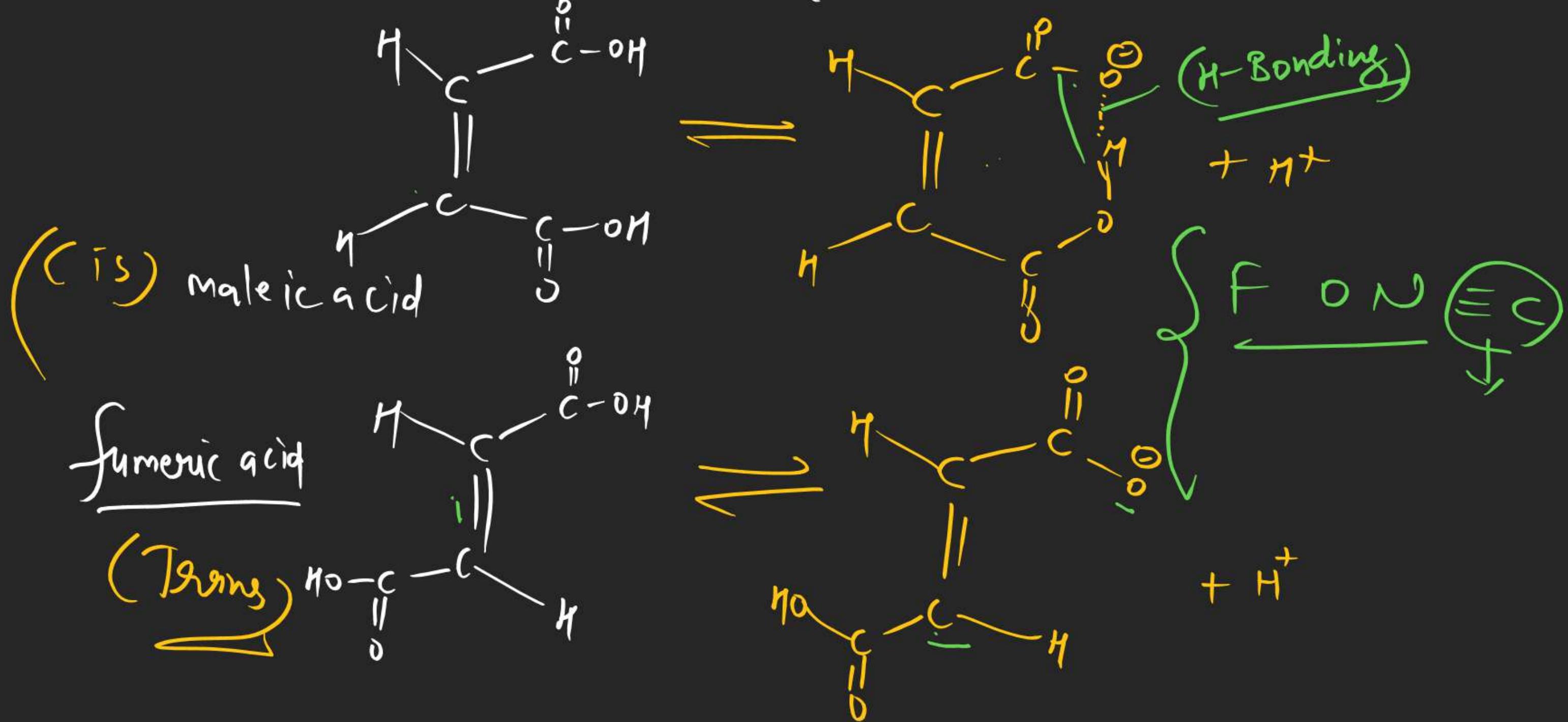
One boric acid =

6 Hbond

Inter H-Bonding



Which is more proton donor acid
fumaric acid or maleic acid.



K_{a_1} of maleic acid > K_{a_1} of fumaric

K_{a_2} of maleic acid < K_{a_2} of fumaric

$$\text{p}K_{a_2} \propto -\frac{1}{K_{a_1}}$$

K_{a_1} = first Ionisation const.
(acid)