

There are three types in which the attractive forces are due to

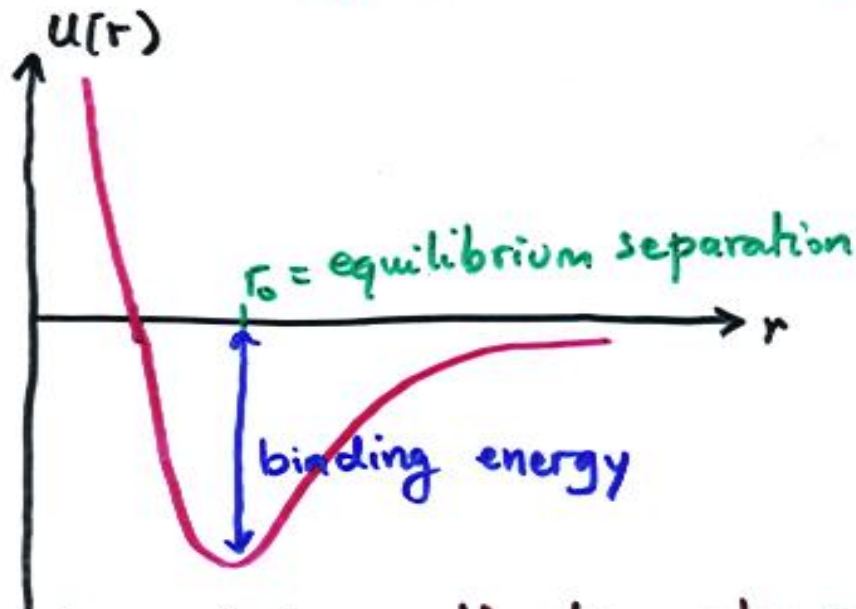
- Dipole-Dipole occurs between two atoms having permanent electric dipole moment. ( $\text{HCl}$  and  $\text{H}_2\text{O}$ )

- Dipole-Induced dipole occurs between a polar molecule having a permanent dipole which induces a dipole moment in a non-polar molecule.

- Dispersion or London occurs between two non-polar molecules.

In these three cases the forces  $F \propto \frac{C}{r^7}$

The total potential energy of the molecule varies as follows



at  $r_0$  the net force between the two atoms is zero and the molecule is stable.