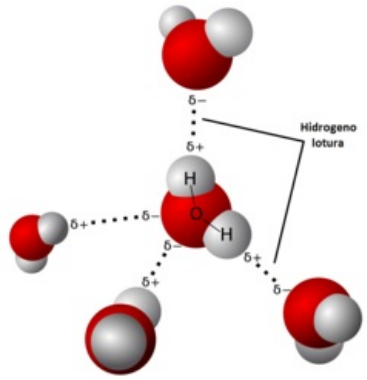
Forces acting between molecules

All forces acting between atoms, molecules, and ions are coulombic in nature (+ and − attract).

Van der Waals forces

Van der Waals forces are attractive forces between neutral molecules. Their essence is the interaction of molecular dipoles (which exist due to the instantaneous uneven distribution of electrons in the molecule).

- **Orientation forces** act between permanent dipoles (dipole-dipole).
- **Inductive forces** – a polar molecule polarizes a non-polar one (dipole-induced dip.).
- **Dispersion (London) forces** – molecules oscillate and occasionally a dipole is randomly formed that interacts with other molecules.



Hydrogen bonds

Hydrogen bonds

Hydrogen bonds are a special type of dipole-dipole interaction between polar bonds containing hydrogen covalently bonded to an electronegative element (eg: oxygen, nitrogen, fluorine). The hydrogen then interacts with a lone pair of electrons near an electronegative element in another molecule (intermolecular interaction) or in the original molecule (intramolecular interaction). A typical compound forming hydrogen bonds is water. On the basis of hydrogen bridges, some properties of water (and possibly other compounds) are explained, such as its relatively high boiling point compared to other hydrides. 6. hl. groups of the periodic table.

Links

Related articles

- Covalent bond
- Coordination covalent bond

Sources

- KUBATOVA, Senta. *Biofot* [online]. [cit. 2011-01-31]. <https://uloz.to/!CM6zAi6z/biofot-doc>.