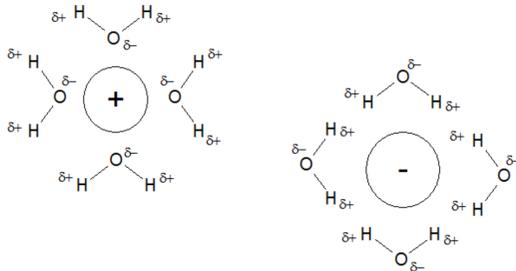
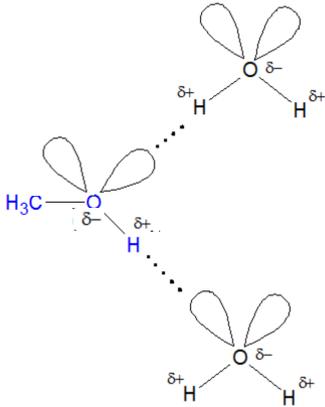




SOLUBILITY

There is a common saying that "like dissolves like". There is some truth in this and it is a useful statement, but there is more to solubility than that.

Solvent	Type of solvent	Ionic compounds	Compounds with hydrogen bonding e.g. alcohols, simple sugars	Non-polar substances, e.g. O ₂ , CO ₂ , CH ₄ , wax
Water	POLAR Water molecules are polar (and there are hydrogen bonds between molecules)	Many ionic compounds dissolve in water. This is because attractions form between the polar water molecules and the ions. (Some compounds with very strong ionic bonding, e.g. Al ₂ O ₃ , because it is too difficult to overcome the attractions between the ions) 	These usually dissolve in water. Water has hydrogen bonds and substances with hydrogen bonds can form attractions through hydrogen bonds to the water molecules. 	These are usually insoluble or only slightly soluble.
Alkanes (e.g. hexane, cyclohexane)	NON-POLAR Alkanes are non-polar (and there are van der Waals' / London dispersion forces between molecules)	Insoluble	Usually insoluble or only slightly soluble	Usually dissolve well – intermolecular forces form between the solvent and solute molecules.