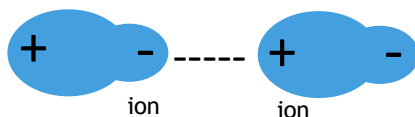


# Intermolecular Forces

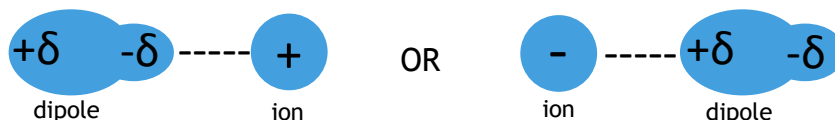
- by Daksh Patel, Environmental Geoscience (2<sup>nd</sup> Year)

The interaction between molecules are mediated by intermolecular forces through charges, partial charges or temporary charges of molecules. Different types of intermolecular forces are listed below in the order of strongest to the weakest.

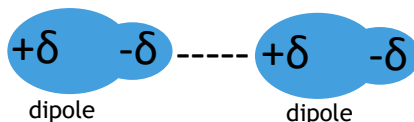
1. **Ion - ion forces** - Intermolecular force between two oppositely charged ions. e.g. NaCl.



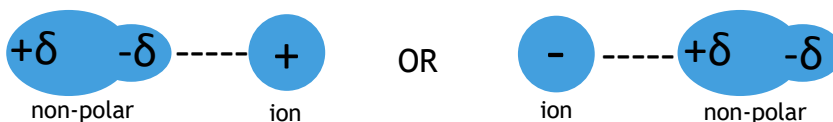
2. **Ion - dipole forces** - Intermolecular force between an ion and the oppositely charged end of a polar molecule. e.g. NaCl in H<sub>2</sub>O.



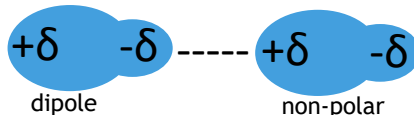
3. **Dipole - dipole forces** - Intermolecular force exhibited by polar molecules in which positive end of one dipole attracts the negative end of another polar molecule. e.g. HBr & H<sub>2</sub>S.



4. **Ion-induced dipole forces** - Intermolecular force exist between an ion and a non-polar molecule. Here the charge of the ion creates temporary dipole on non-polar molecule. e.g. I<sub>2</sub> & NO<sub>3</sub><sup>-</sup>.



5. **Dipole-induced dipole forces** - Intermolecular force exist between a molecule that have a permanent dipole and a molecule that is non-polar. e.g. H<sub>2</sub>O & I<sub>2</sub>.



6. **Induced dipole-induced dipole forces** - This is the weakest intermolecular force in which temporary dipole creates temporary dipole. e.g. I<sub>2</sub> & I<sub>2</sub>.



Strongest  
intermolecular  
force



Weakest  
intermolecular  
force

