

Acid Strengths, salts, etc

- Non-metal hydride acids

ex, HCl, HF, H₂S, etc

- going down the periodic table the bond strength decreases
So the acidity increases

H₂S is a weaker acid than H₂Te (group 6A)

- going right across the periodic table the electronegativity increases
So the acidity increases

HCl is a stronger acid than H₂S (period 3)

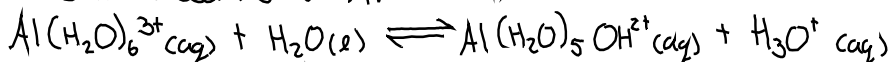
- Hydrated metal ions

- aqueous solns. of some metal ions are acidic due to the hydrated metal ion acting as an acid, transferring an H⁺ ion to water

- Ex: Al salt, Al(NO₃)₃



• Salt dissolves & Al³⁺ is hydrated



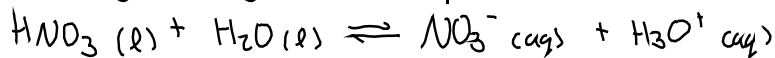
• hydrated Al³⁺ loses a proton (dissociation)

- Some metal ions that are acidic (in order strongest → weakest)
Fe³⁺ > Sn²⁺ > Cr³⁺ > Al³⁺ > Be²⁺ > Cu²⁺ > Pb²⁺ > Zn²⁺ > Co²⁺ > Ni²⁺

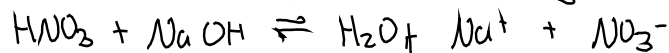
- Salts that give neutral solns

- Salt of strong acid & strong base gives a neutral soln as the ions do not react w/ H₂O

- ex: HNO₃ → dissociates completely



- Now, if we were to react HNO₃ w/ NaOH



∴ if we had a soln of NaNO₃ in water, it would be neutral