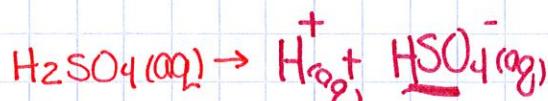


Acids & Bases

• Definitions

Arrhenius Acid

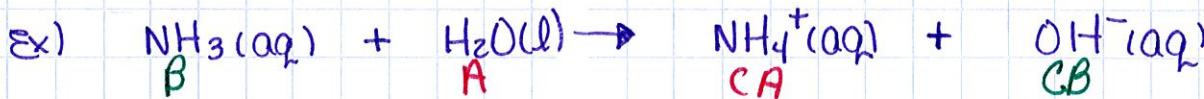
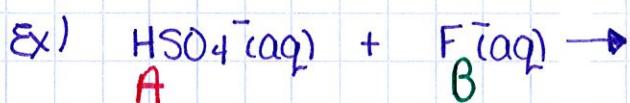
substance that releases H^+ ions in solution



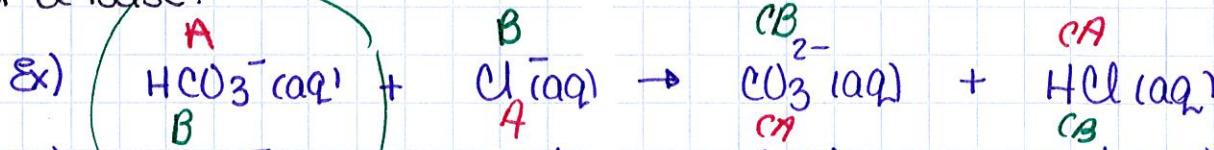
Bronsted-Lowry Acid

substance that donates H^+ ions in solution

• All acids have a conjugate base - substance that remains after the acid has donated an H^+

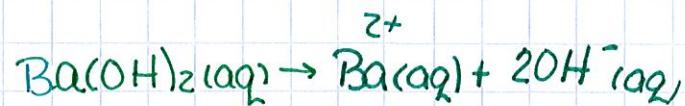


Amphoteric Substance - one that can act as either an acid or a base.



Arrhenius Base

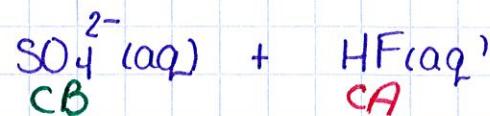
substance that releases OH^- ions in solution



Bronsted-Lowry Base

substance that accepts H^+ ions in solution

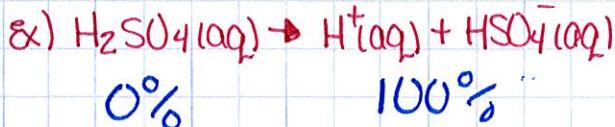
• All bases have a conjugate acid - substance the base becomes after accepting an H^+ .



(1)

• Strength of Acids & Bases - refers to the extent the compound breaks apart into ions, not how much damage it can do.

Strong acids/bases
break apart + ionize
100% into ions.



7 Strong Acids - memorize!

1) hydrochloric acid	HCl
2) hydrobromic acid	HBr
3) hydroiodic acid	HI
4) nitric acid	HNO ₃
5) chloric acid	HClO ₃
6) perchloric acid	HClO ₄
7) sulfuric acid	H ₂ SO ₄

8 Strong Bases - memorize!

1) lithium hydroxide	LiOH
2) sodium hydroxide	NaOH
3) potassium hydroxide	KOH
4) rubidium hydroxide	RbOH
5) cesium hydroxide	CsOH
6) calcium hydroxide	Ca(OH) ₂
7) strontium hydroxide	Sr(OH) ₂
8) barium hydroxide	Ba(OH) ₂

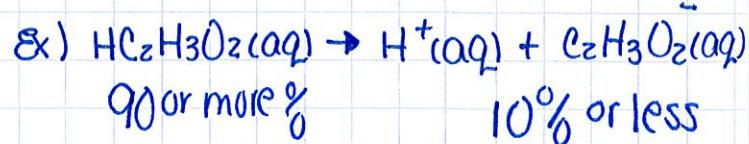
Properties

Acids

- taste sour
- electrolytes
- turn blue litmus paper red
- react w/metals to produce H₂(g)
 $(\text{H}_2\text{SO}_4(\text{aq}) + \text{Mg}(\text{s}) \rightarrow \text{H}_2(\text{g}) + \text{MgSO}_4(\text{aq}))$
- react w/bases to produce a salt and water

Weak acids/bases

less than 10% breaks apart (ionizes) into ions



Bases

- taste bitter
- electrolytes
- turn red litmus paper blue
- react w/acids to produce a salt and water



(2)