

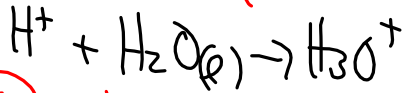
Chap 16 - Acids, Bases, Salts

H/OH

(ABS)

Acids

(H^+ only \oplus ion
 $H_3O^+ \rightarrow$ hydronium ion)



SA - dissociates $\sim 100\%$ into ions
 $HCl, HBr, HI, HNO_3, H_2SO_4$
 $HClO_3, HClO_4$

Marella says they're acidic!

$pH < 7$

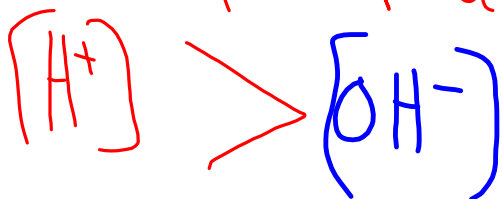
SOUR

Arrhenius H^+

Bronsted-Lowry H^+ donor

Lewis e^- acceptor

RED in Litmus
 Clear in phenolphthalein



Bases

OH^- only \ominus ion (hydroxide)

SB \rightarrow dissociates $\sim 100\%$ into ions
 Li, K, Na, Rb, Cs, Fr
 Ca, Ba, Sr, Pb, Zn

Marella says bases are basic OR alkaline

$pH > 7$

Bitter

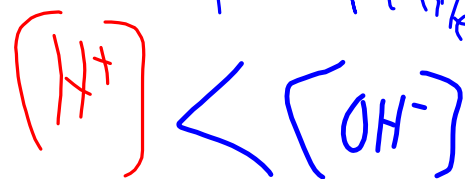
Arrhenius OH^-

Bronsted Lowry $\rightarrow H^+$ acceptor

Lewis e^- donor

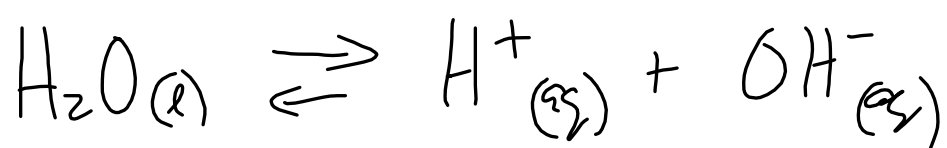
Blue in Litmus

Pink in phenolphthalein



Dissociation of water

K_w



$$K_c = \frac{[\text{H}^+][\text{OH}^-]}{1} = K_w = 1 \times 10^{-14} \text{ AT } 25^\circ\text{C}$$

