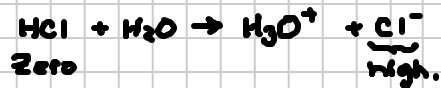


Lecture 12.1 Strong & weak acids/bases Comparisons

Note Title

10/4/2011

Strong Acid: Successfully gives up H^+

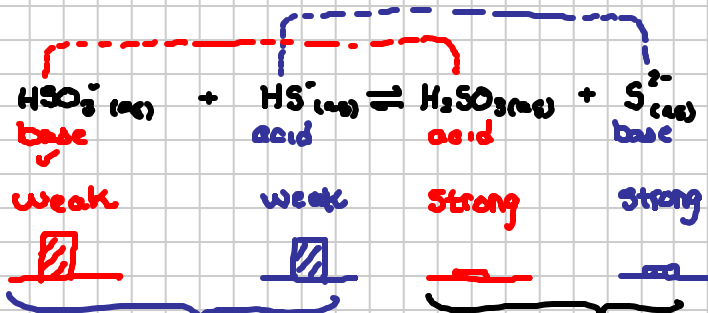


Strong base: Successfully get a proton observed w/proton.

Acid	Base
HCl	Cl^-
Strong H_2SO_4 HNO_3 H_3O^+	HSO_4^- Neutral NO_3^- $K_b \approx 0$
HSO_4^-	SO_4^{2-}
H_2SO_3 $K_a = 1.7 \times 10^{-2}$	HSO_3^- $K_b = 1.56 \times 10^{-11}$
H_3PO_4	$H_2PO_4^-$
HF	F^-
$HC_2H_3O_2$	$C_2H_3O_2^-$
H_2CO_3	HCO_3^- Weak
Weak H_2S	HS^-
HSO_3^-	SO_3^{2-}
$H_2PO_4^-$	HPO_4^{2-}
HCN	CN^-
NH_4^+	NH_3
HCO_3^-	CO_3^{2-}
HPO_4^{2-}	PO_4^{3-}
H ₂ O	OH^-
HS^- $K_a \approx 0$ OH^- Negligible	S^{2-} Strong O^{2-} $K_b \approx \infty$

Acid Strength ↑ ↓ Base Strength

Example: Det. relative size of equl K_e



$K_e = \frac{\text{prod}}{\text{react}} = \text{Small} \quad K_e \ll 1$ favors reactants.

Low
 High