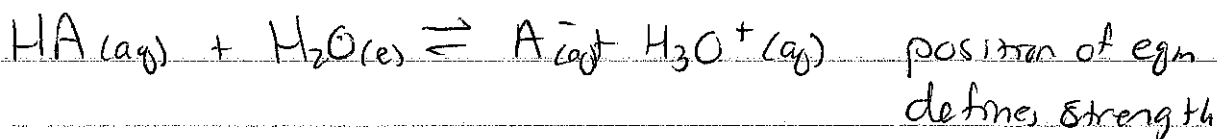


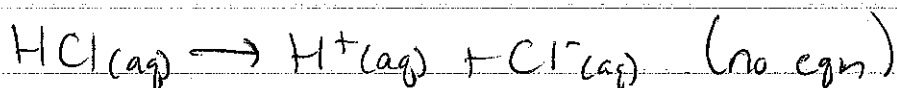
# §. 4 Strong / Weak Acids / Bases

acids produce  $H^+$  } dissociate in soln  
bases produce  $OH^-$

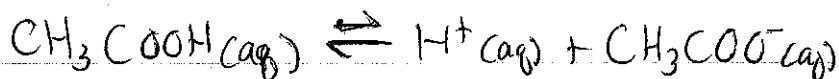
aq solns = eqm mixtures



Strong Acid: eqm lies extremely to right



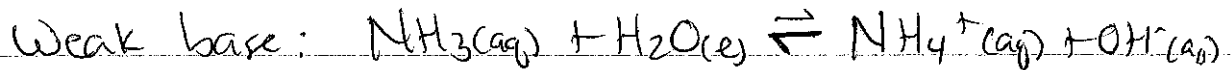
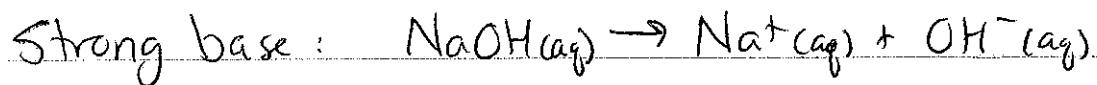
Weak acid: eqm lies to left



- Summary:
- Strong acid good  $H^+$  donor  $\rightarrow$  full dissociation creates weak conj. base  $\rightarrow$  does not readily accept  $H^+$
  - weak acid poor  $H^+$  donor, creates strong conj. base  $\rightarrow$  readily accepts  $H^+$

$\therefore$  strength = measure of dissociation in soln

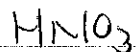
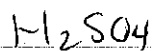
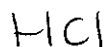
$\star$  do not confuse strength w/ concentration !!



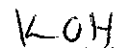
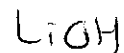
Summary: opposite for bases

- Strong base good  $\text{H}^+$  acceptor, weak conj. acid
- weak base poor  $\text{H}^+$  acceptor, strong conj. acid

Strong Acids

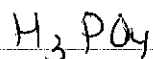


Bases



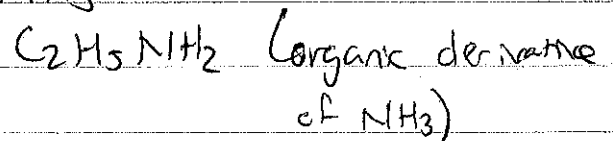
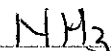
\* all others weak (section 21)

Weak Acids



\* organic acids: a.a + DNA

Bases



Distinguish b/w S + W A/B

Strong A/B contain higher  $[ion]$  than weak  
→ used to distinguish them  
(only valid at same  $[ ]$  +  $T$ )

1) Electrical conductivity

depends on  $[ ]$  of mobile ions

strong  $\uparrow$  conductivity over weak

2) Rate of Rxn

$\uparrow$  ROR w/ Strong

important for lab safety,

not easy for quantifying data

3) pH

measure of  $[H^+]$

direct comparison of strengths (equal  $[ ]$ )