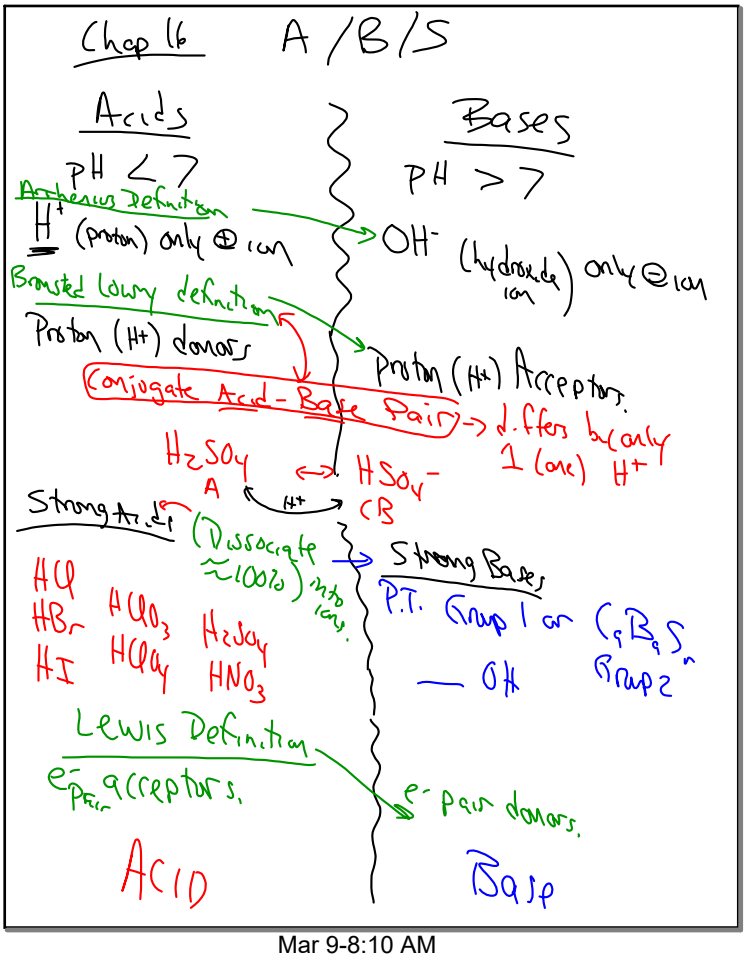
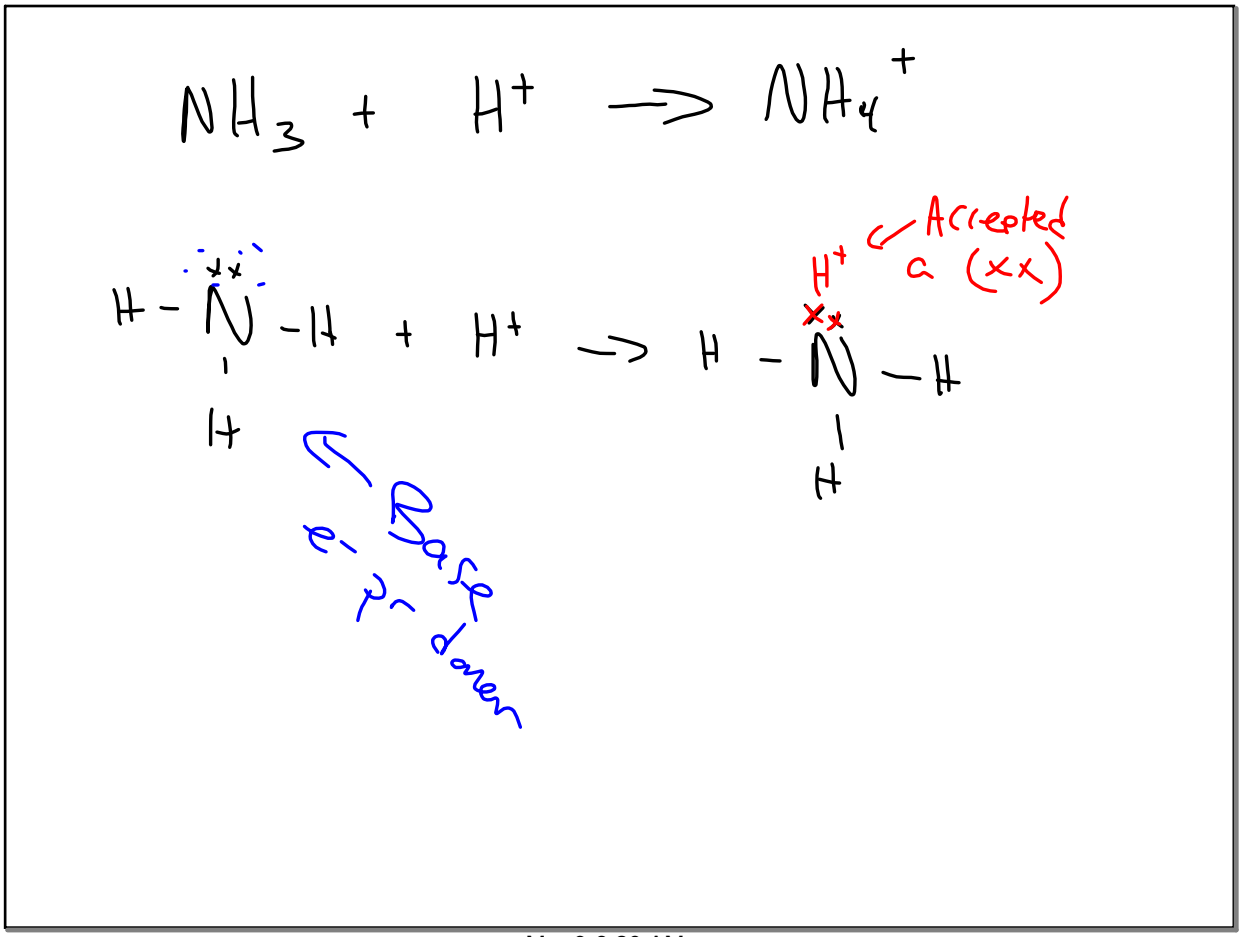
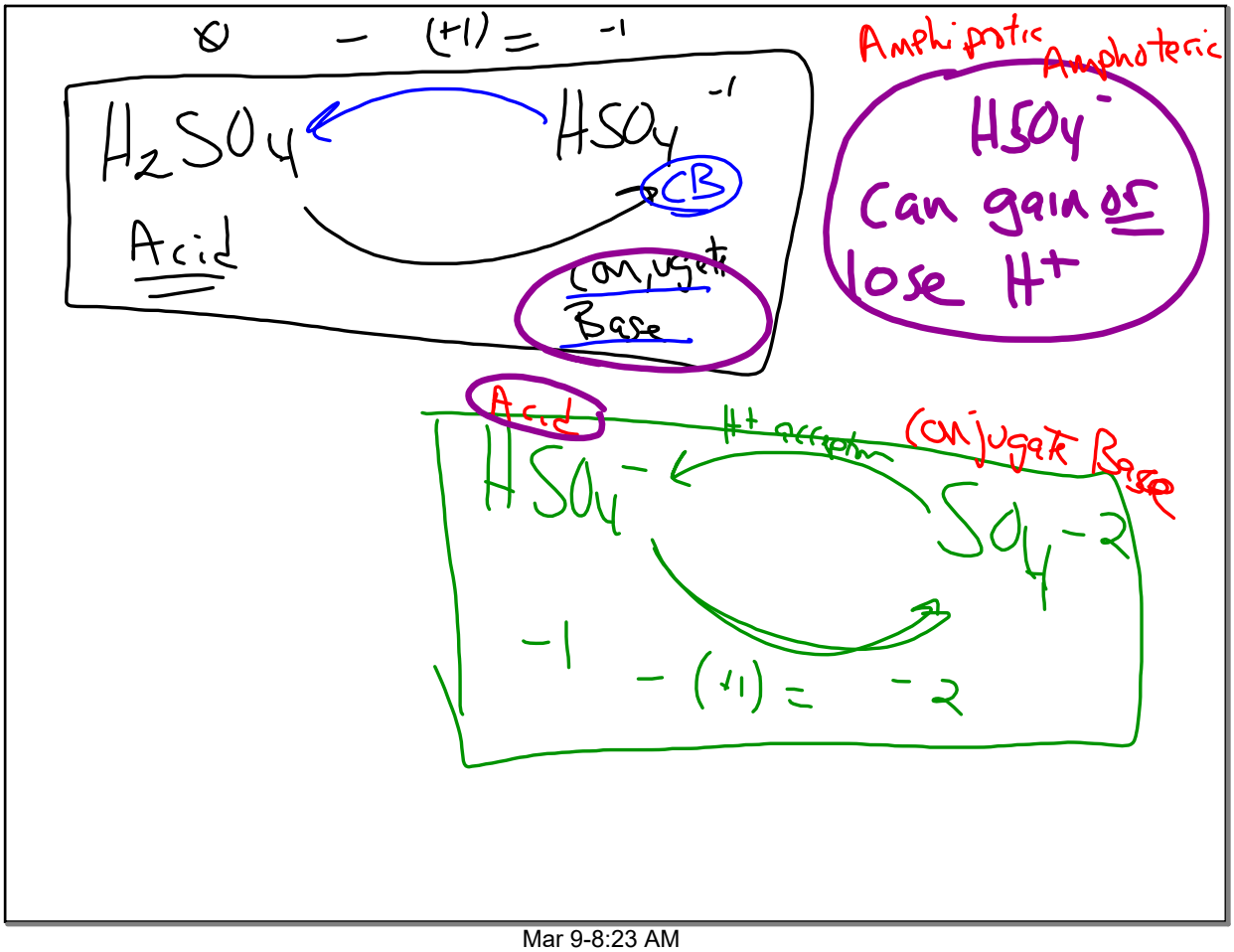


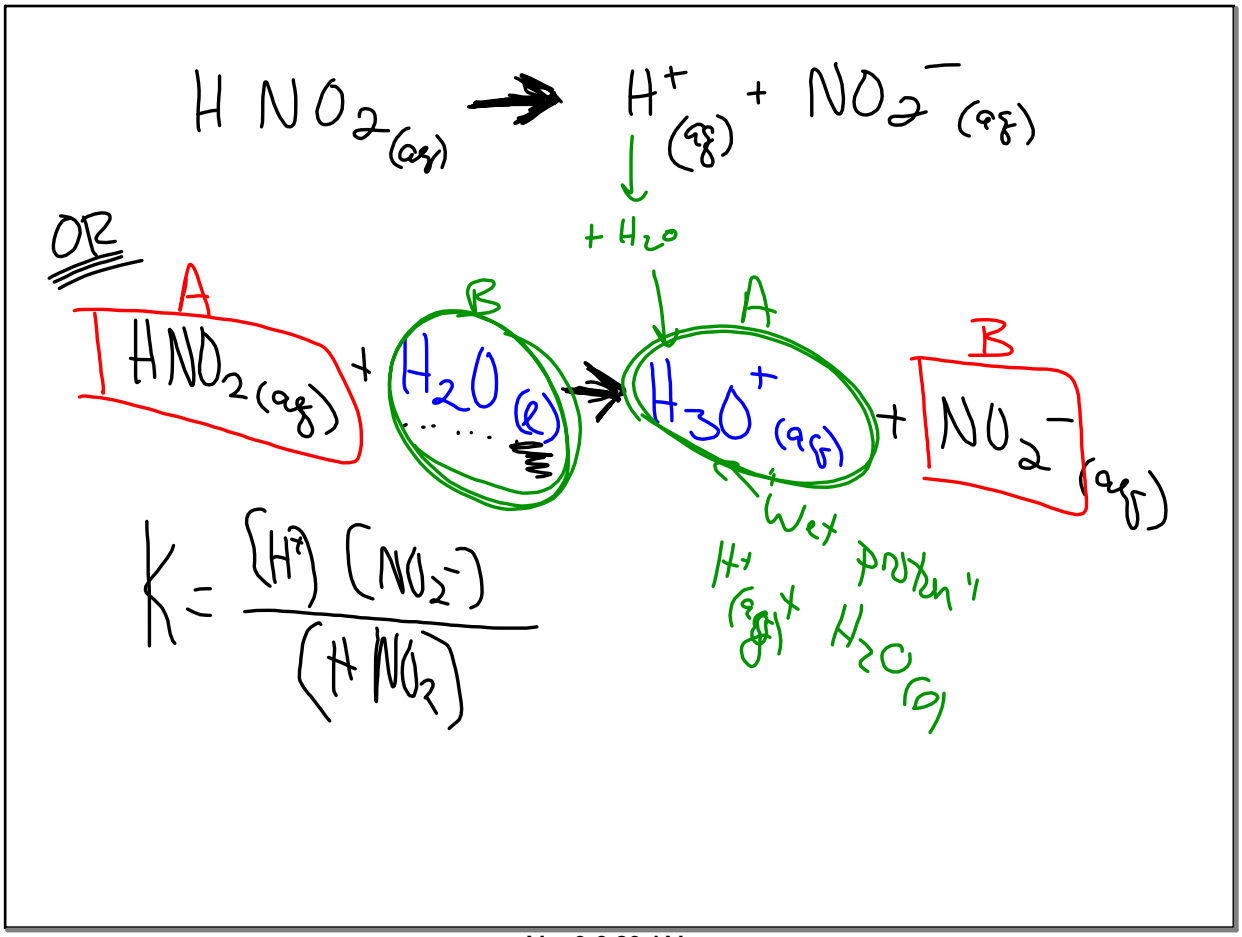
Mar 9-8:10 AM



Mar 9-8:20 AM



Mar 9-8:23 AM



Mar 9-8:29 AM

Dissociation of water

$$H_2O_{(l)} \rightleftharpoons H^+_{(aq)} + OH^-_{(aq)}$$

$$\frac{K_c}{1} = \frac{[H^+][OH^-]}{[H_2O_{(l)}]}$$

$[H_2O_{(l)}] = 1$ (constant)

$$K_c[H_2O_{(l)}] = [H^+][OH^-]$$

(constant)

$$K_w = [H^+][OH^-]$$

$$= (H_3O^+)(OH^-)$$

Mar 9-8:34 AM

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

constant for water

$$-\log K_w = -\log\left((H^+)(OH^-)\right) = -\log(1\times10^{-14})$$

$$pK_w = (-\log H^+) + -\log(OH^-) = 14$$

power of H^+

$$pH + pOH = 14$$

$$pH = -\log[H^+]$$

$$pOH = -\log[OH^-]$$

power of OH^-

$$[H^+][OH^-] = 1\times10^{-14}$$ AT 25°C

Mar 9-8:37 AM

pH = 5

pOH ? = 9 ← pH + pOH = 14

(H+) = ?

(OH-) = ?

* $pH = -\log[H^+]$

$5 = -\log[H^+]$ *

$-5 = \log[H^+]$

$[H^+] = 1 \times 10^{-5} M$

$[H^+][OH^-] = 1 \times 10^{-14}$

$(1 \times 10^{-5})(OH^-) = 1 \times 10^{-14}$

$(OH^-) = 1 \times 10^{-9}$

Mar 9-8:43 AM

16/ 20, 22, 28, 40

Mar 9-8:45 AM