

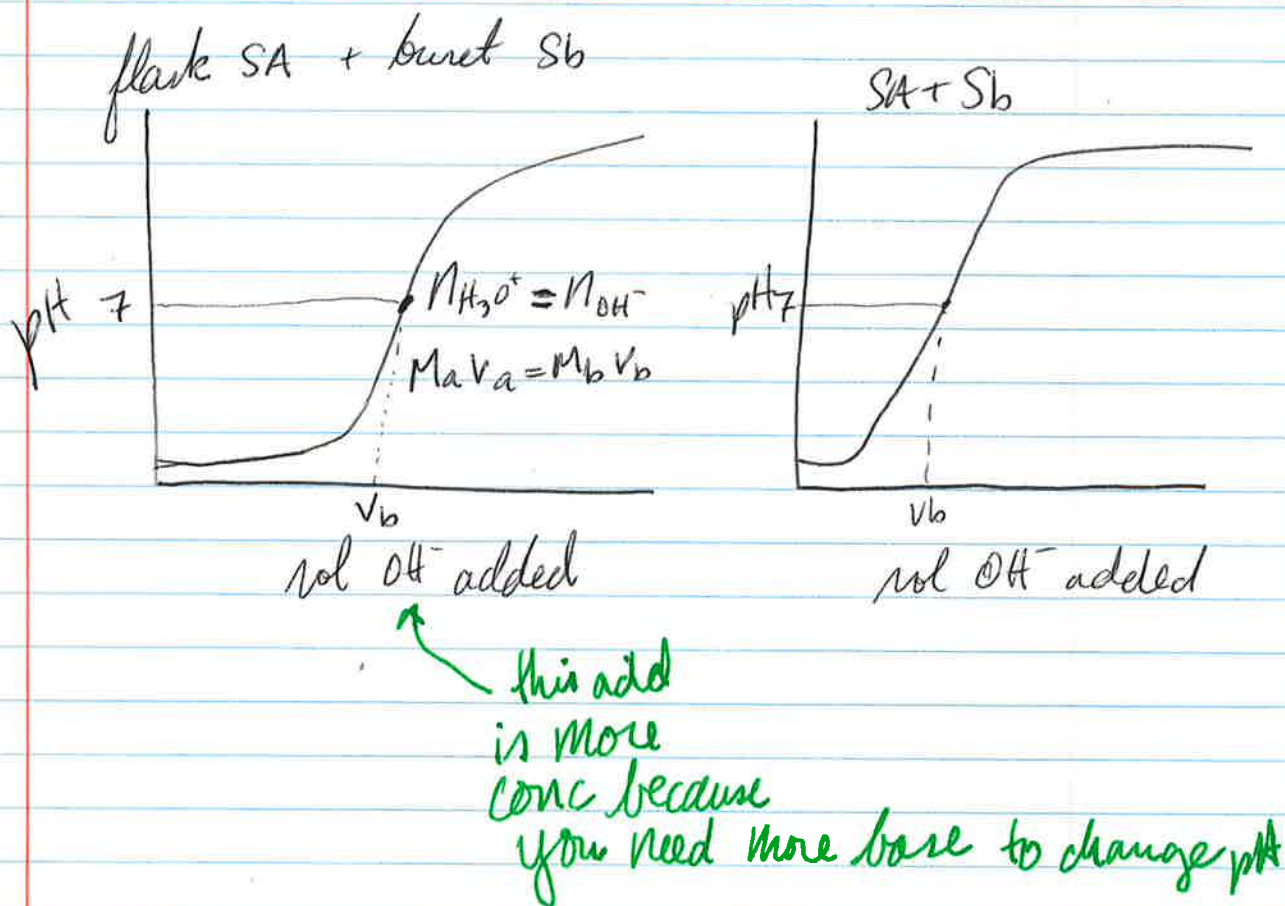
General Chemistry w/ Doc M

Today March 15 Review
Finish Chp 16 K_{sp} (Exam 4)

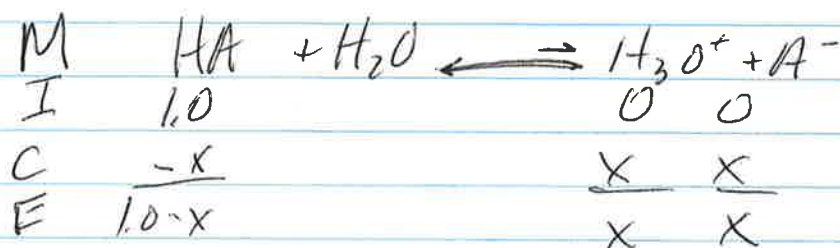
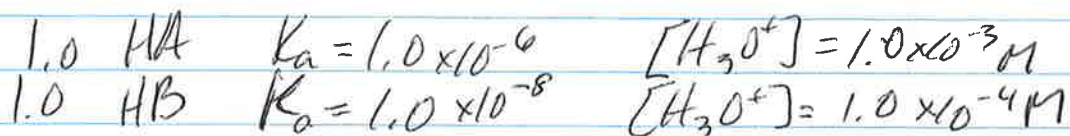
Review Tonight 5-6:30 Eppley 113

Thursday March 16 Buffer Lab #1
Download pre-lab lecture
Lab Quiz on H_3PO_4 titration

Friday March 17 Celebration of Knowledge!
Doors open 15 min before test
Checklist + Old Exams on website

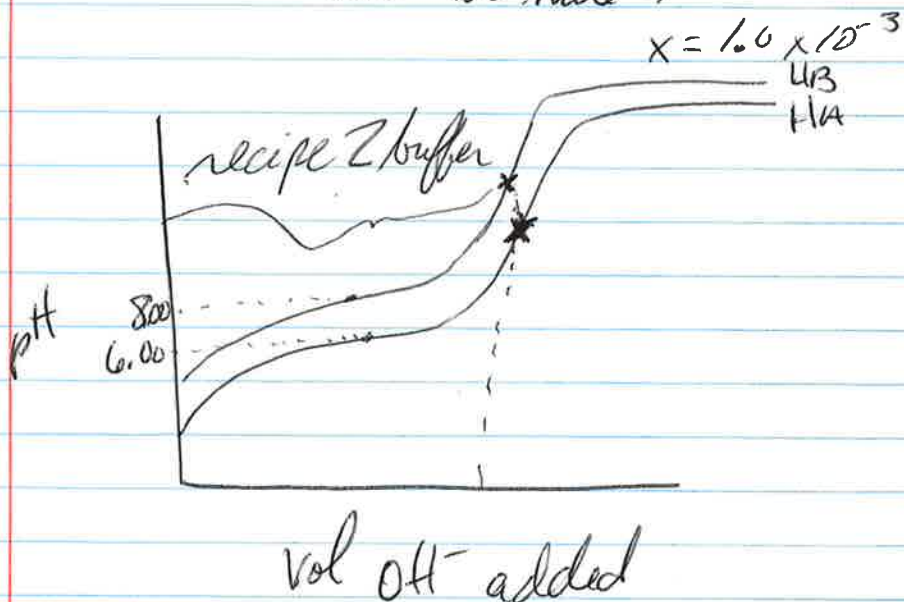


$$\text{pH} = -\log [\text{H}_3\text{O}^+]$$

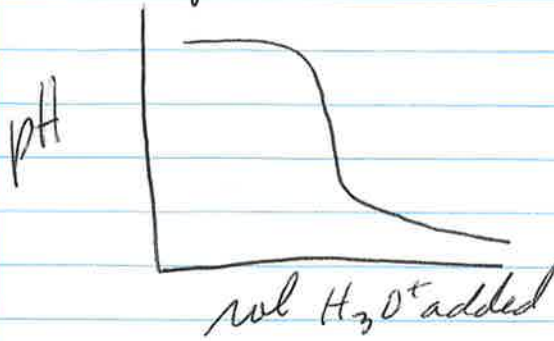


$$K_a = 1.0 \times 10^{-6} = \frac{[\text{H}_3\text{O}^+][\text{A}^-]}{[\text{HA}]}$$

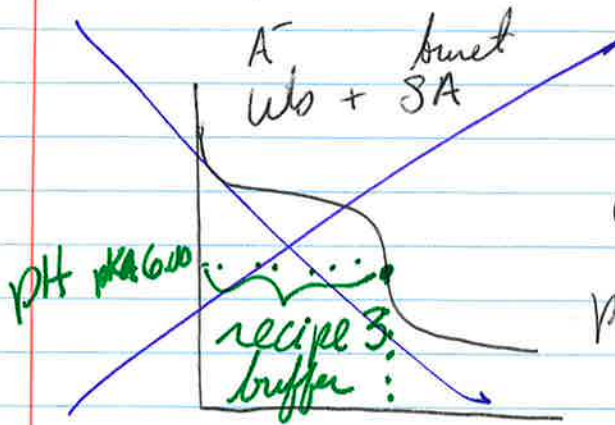
Use 400 rule :)



flask OH^- + buret H_3O^+



vol H_3O^+ added

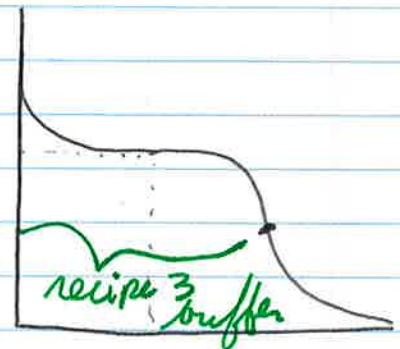


A^- buret
 $\text{wb} + \text{SA}$

pH $\text{pKa } 6.00$

recipe 3:
buffer :

6.00
pH

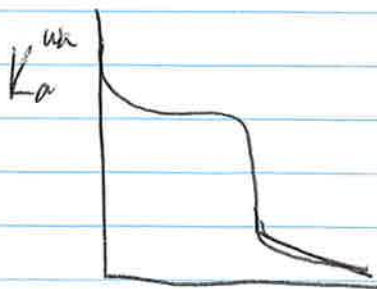


recipe 3:
buffer

$\text{HA } K_a = 1 \times 10^{-6} \text{ pKa} = 6.00$

50% A^-
50% HA
 $\text{pH} = \text{pKa}$

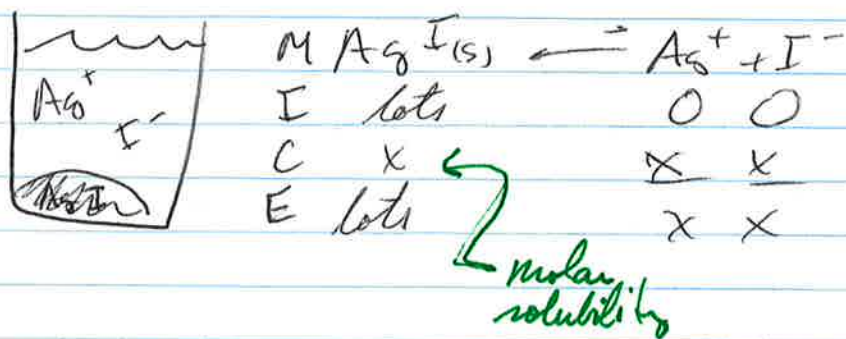
$K_b^{\text{wb}} > K_a^{\text{wa}}$



NH_3
 $K_b = 1.8 \times 10^{-5}$

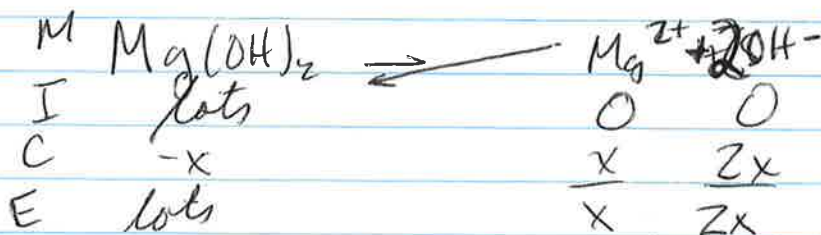
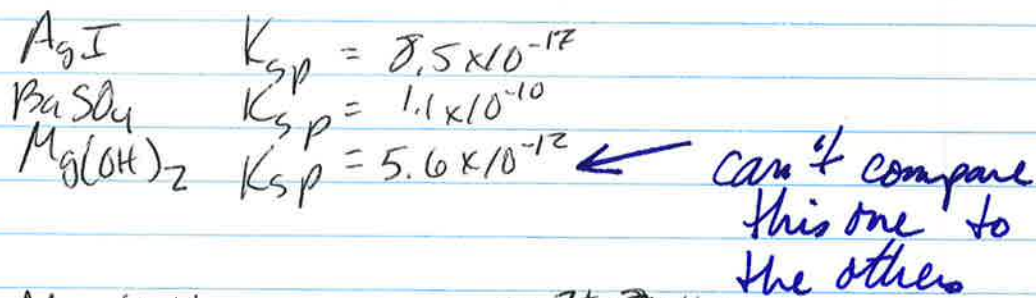
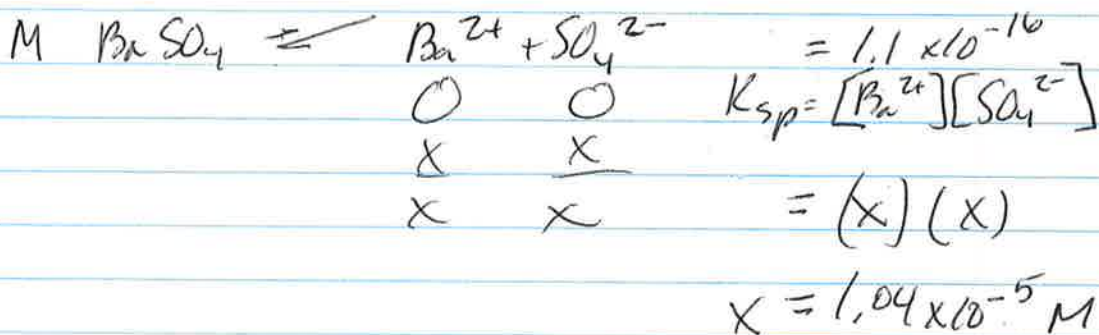
NH_4^+
 $K_a = 5.6 \times 10^{-10}$

Buffer capacity: $[\text{HA}] + [\text{A}^-] =$



$$K_{sp} = [\text{Ag}^+][\text{I}^-] = 8.5 \times 10^{-17}$$

$$(x)(x) = 9.22 \times 10^{-9} \text{ M}$$

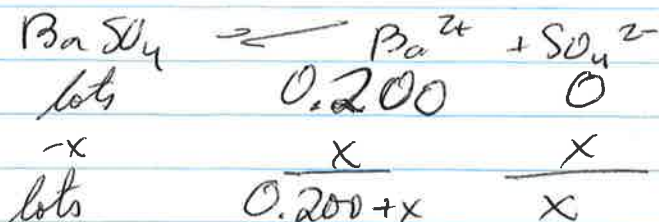


$$K_{sp} = [\text{Mg}^{2+}][\text{OH}^-]^2 = 5.6 \times 10^{-12}$$

$$\Rightarrow (x)(2x)^2 = 4x^3 = 5.6 \times 10^{-12}$$

$$x = 1.1 \times 10^{-4} \text{ M}$$

What is the solubility of BaSO_4 in a sol'n
that contains 0.200M $\text{Ba}(\text{NO}_3)_2$?



$$K_{sp} = 1.1 \times 10^{-10} = [\text{Ba}^{2+}][\text{SO}_4^{2-}]$$

$$1.1 \times 10^{-10} = (0.200+x)(x)$$

$$= 0.200x$$

$$5.5 \times 10^{-10}\text{M} = x$$

\hookrightarrow lower solubility