Chapter 14 – Equilibrium with Acid/Base Reactions

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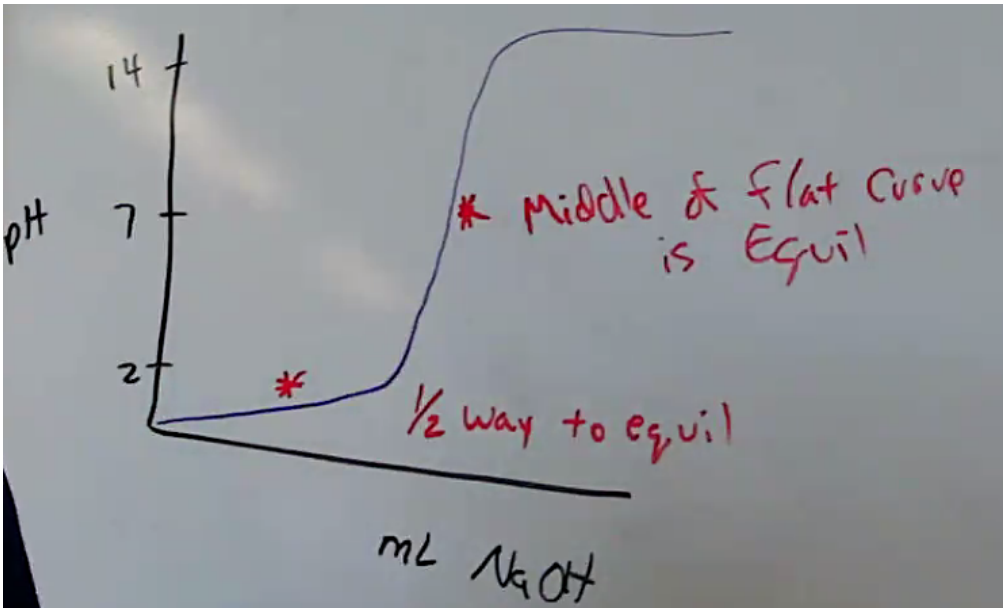
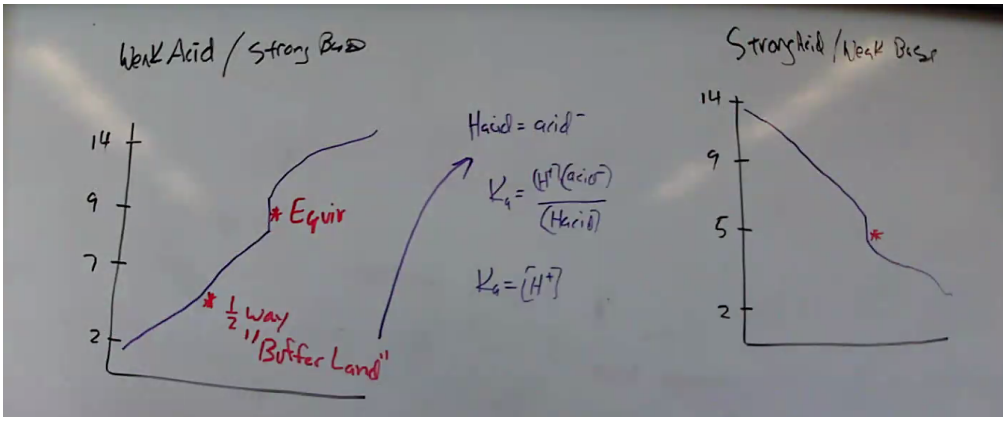
- Buffered Solutions – Resist pH change. Made of weak acid and concentrated base.
    1. Ex. $HC_2H_3O_2$ and $NaC_2H_3O_2$. Add: HCl and NaOH
- Buffer Capacity – How many ions can be added to destroy the buffers effectiveness
- Titration – Adding an acid to base or base to acid to determine concentration
- When the amount of acid-base is at the equivalence point, $M_aV_a = M_bV_b$
    1. Indicators are used to tell if the solution is at an equivalence point
- Three main indicators:
    1. Methyl Red – End point = 5. Acid is red, base is yellow.
    2. Bromothymol Blue – End point = 7. Acid is yellow, base is blue
    3. Phenolphalein – End point = 9. Acid is colorless, base is pink
- End point needs to coincide with the equivalence point

- Titration Curve for Strong and Strong



Titration Curve Example

- Titration Curve for Weak Acid Strong Base and Strong Base Weak Acid



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