        - ⭐ Thus, both free amino acids and some amino acids combined in peptide linkages can act as **buffers**
            - See aas histidine
    - Can be created by mixing a weak acid (HA) with its conjugate base (A-)
        - If an acid such as HCl is added to a buffer, A- can neutralize it, being converted to HA in the process
        - If a base is added, HA can neutralize it, being converted to A- in process
    - Maximum buffering capacity occurs at a pH equal to the pKa, but a conjugate acid-base pair can still serve as an effective buffer when the pH of a solution is within +-1 pH unit of the pKa
        - If the amounts of Ha and A- are equal, the pH is equal to the pKa

- **Titration of an AA**
    - A titration is a fast, inexpensive way to determine the **identity of an unknown sample**; it would not however be a good way to determine the contents of a mixture of amino acids. To that end, you will each be assigned a single unknown amino acid to identify by titration versus a standardized solution of NaOH (link)
    - Ionizable groups on AAs carry protons at low pH (high [H+]), which dissociate as the pH increases. If the pH is below an ionizable group's pKa, then the group will be protonated. Once the pH is above the pKa, the group will be protonated
    - **See video for example** (example of titration curve of alanine, glycine, and histidine)