

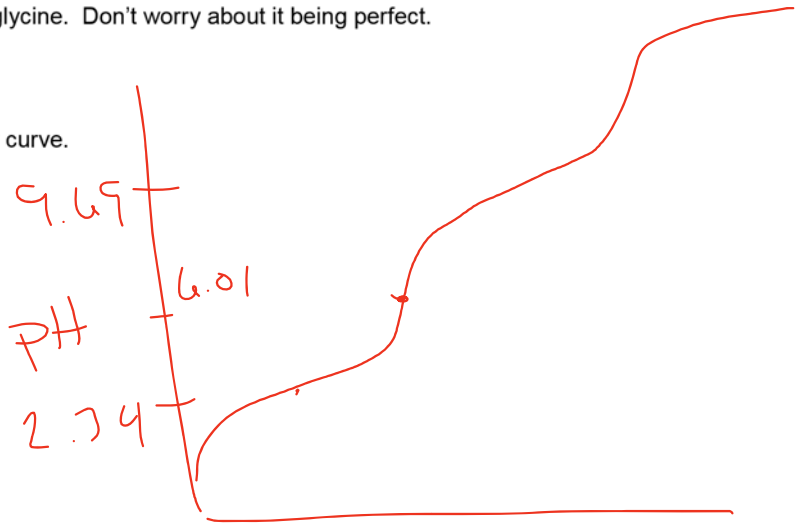
Amino Acids

Glycine

1. Quickly sketch a titration curve for glycine. Don't worry about it being perfect.
2. Label the two pKa values.
3. Calculate the pI and label it on your curve.

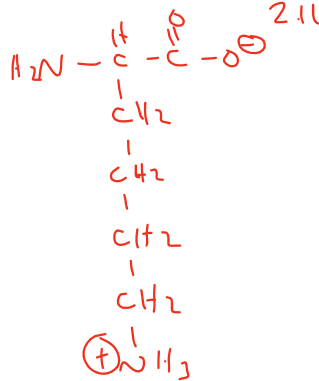
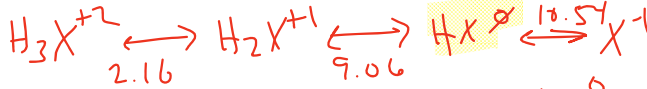
$$pI = \frac{2.34 + 9.39}{2}$$

$$pI = 6.01$$



Lysine

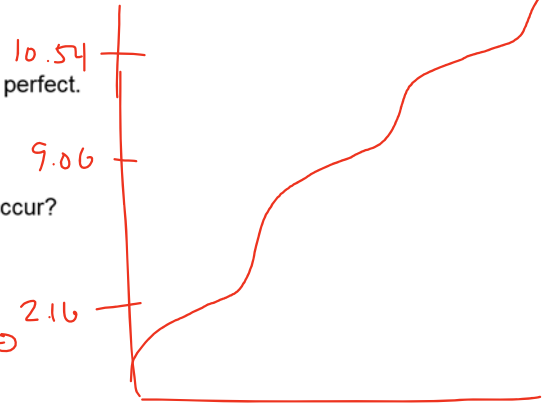
4. Quickly sketch a titration curve for lysine. Don't worry about it being perfect.
5. Label the three pKa values.
6. Draw lysine as an isoelectric zwitterion. What pH will this molecule occur?



7. Calculate the pI and label it on your curve.

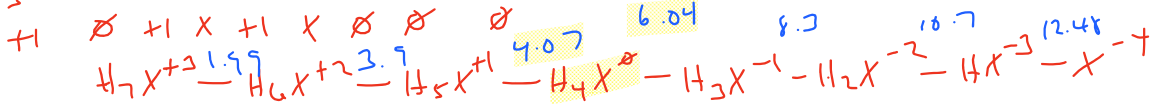
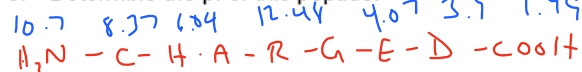
$$pI = \frac{9.06 + 10.57}{2}$$

$$pI = 9.8$$



CHARGED

8. Determine the pI of this peptide.



9. Will DEGRAHC have the same pI? Explain your answer.

$$pI = \frac{4.07 + 6.04}{2} = 5.055$$

In this case, yes. However,

It's important to note that IF the N- or C-termini are one of the two pKas that you average, the pI will change