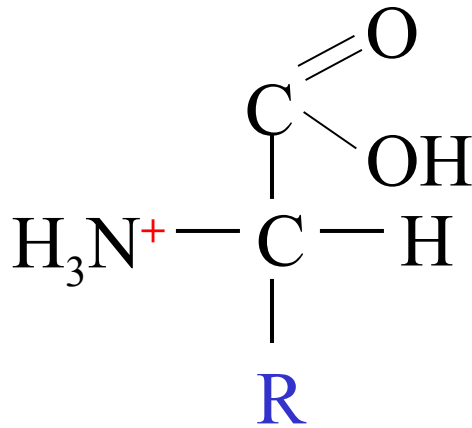


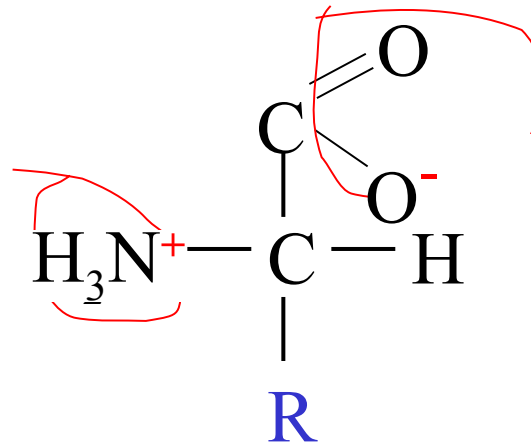
acid-base chemistry



low pH

amine and c.a.
protonated

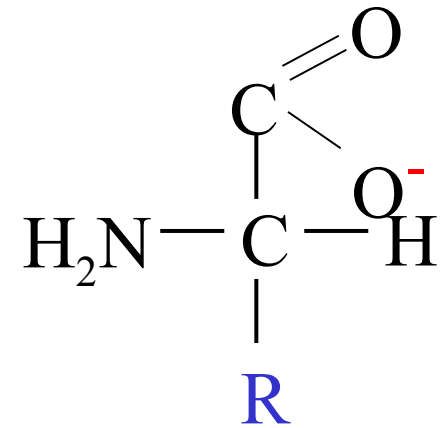
positive charge



neutral pH

amine protonated
c.a. deprotonated

no net charge



high pH

amine and c.a.
deprotonated

negative charge

isoelectric point $\text{pH} = \text{pH}_I$

amino acids

diprotic acids

2 pK_a