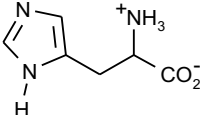


AMINO ACIDS AND PROTEINS PRACTICE TEST

1.	<p>The isoelectric point of phenylalanine is $pI = 5.5$. Indicate which electrode it migrates toward in electrophoresis conducted at $pH = 14.0$.</p> <p>A) It is not possible to answer because the solvent must be specified. B) It does not migrate. C) Negative pole. D) Positive pole.</p>
2.	<p>Indicate the α-amino acid that has two nitrogen atoms..</p> <p>A) Phenylalanine. B) Tyrosine. C) Lysine. D) Serine.</p>
3.	<p>Indicate the products of the reaction of the peptide Ala-Gly-Leu-Phe with carboxypeptidase.</p> <p>A) Ala-Gly + Leu-Phe. B) Ala + Gly-Leu-Phe. C) Ala-Gly-Leu + Phe. D) Ala + Gly + Leu + Phe.</p>
4.	<p>Indicate the α-amino acid that has two nitrogen atoms.</p> <p>A) Phenylalanine. B) Tyrosine. C) Alanine. D) Lysine.</p>
5.	<p>Indicate the predominant form of glycine at $pH = 9$.</p> <p>A) $NH_2CH_2CO_2H$. B) $NH_3^+CH_2CO_2H$. C) $NH_2CH_2CO_2^-$. D) $NH_3^+CH_2CO_2^-$.</p>
6.	<p>Indicate the α-amino acid that has two nitrogen atoms.</p> <p>A) Tyrosine. B) Lysine. C) Methionine. D) Serine.</p>
7.	<p>Knowing the pK_a values of histidine ($pK_{a1} = 1.8$, $pK_{a2} = 6.1$, $pK_{a3} = 9.2$), at which pH, among those proposed, will the amino acid mainly be in dicationic form?¹</p> <div style="text-align: center;">  </div> <p>A) 1. B) 7. C) 10. D) Nobody.</p>
8.	<p>Knowing the isoelectric point of the following amino acids, predict which pole they will migrate toward in electrophoresis conducted at $pH = 3.0$. $pI = Asp: 3.0$; Arg: 10.8; Ser: 5.7.²</p> <p>A) Asp = Does not migrate; Arg = Positive; Ser = Negative. B) Asp = Positive; Arg = Negative; Ser = Does not migrate. C) Asp = Negative; Arg = Negative; Ser = Does not migrate. D) Asp = Does not migrate; Arg = Negative; Ser = Negative.</p>

¹ total ionic charge: +2.

² Arg = Arginine; Asp = Aspartic Acid; Ser = Serine.

9.	Indicate the α -amino acid that has two nitrogen atoms. A) Lysine. C) Methionine.	B) Phenylalanine. D) Serine.
10.	Indicate which α -amino acid has 3 nitrogen atoms. A) Phenylalanine. C) Alanine.	B) Tyrosine. D) Istidina.
11.	Knowing the pKa values of glutamic acid (pKa1 = 2.1, pKa2 = 4.3, pKa3 = 9.8), at which pH, among those proposed, will the amino acid mainly be in monocationic form? ³	
	A) 1.	B) 3. C) 7. D) 12.

³ total ionic charge: +1.