

Unit 3 - Week 1 :

Course outline

How to access the portal?

Week 0 Assignment 0

Week 1 :

- Lecture 01: A brief introduction to Molecules of Life: Structure of Amino acids and their various charged forms
- Lecture 02: Biological Macromolecules and Small molecules: Importance and functions
- Lecture 03: Amino Acids: The building block of proteins
- Lecture 04: Amino acids: separation and detection, Electrophoresis and Ninhydrin reaction

Quiz : Assignment 1

Feedback for Week 1

Week 2 :

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Assignment Solution

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Assignment 1

The due date for submitting this assignment has passed. **Due on 2019-08-14, 23:59 IST.**
 As per our records you have not submitted this assignment.

1) Identify the group containing only hydrophobic amino acids: 1 point

- a. Phenylalanine, Cysteine, Tryptophan
- b. Valine, Alanine, Leucine
- c. Valine, Lysine, Arginine
- d. Serine, Threonine, Isoleucine

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 b.

2) The group where each amino acid has a net negative charge at pH 4.0 is 1 point

- a. Aspartic acid and glutamine
- b. Arginine and histidine
- c. Cysteine and methionine
- d. Aspartic acid and glutamic acid

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 d.

3) For histidine, pK₁ is 1.82, pK₂ is 9.17 and pK₃ is 6.00. Its pI is 1 point

- a. 7.59
- b. 3.91
- c. 6.00
- d. 5.50

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 a.

4) Which of the following has highest pI? 1 point

- a. Alanine
- b. Lysine
- c. Proline
- d. Arginine

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 d.

5) For the peptide as shown below each pK_a value is mentioned. Its pI will be 1 point



- a. 6.30
- b. 2.52
- c. 7.09
- d. 9.74

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 a.

6) Which of the following amino acid will move towards +ve electrode at pH 5.0 during paper electrophoresis 1 point

- a. arginine
- b. glutamic acid
- c. lysine
- d. isoleucine

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 b.

7) Number of chiral centers in isoleucine is 1 point

- a. 1
- b. 2
- c. 3
- d. 4

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 b.

8) Which one of the following amino acids is most likely to be found on the surface of a globular protein in water? 1 point

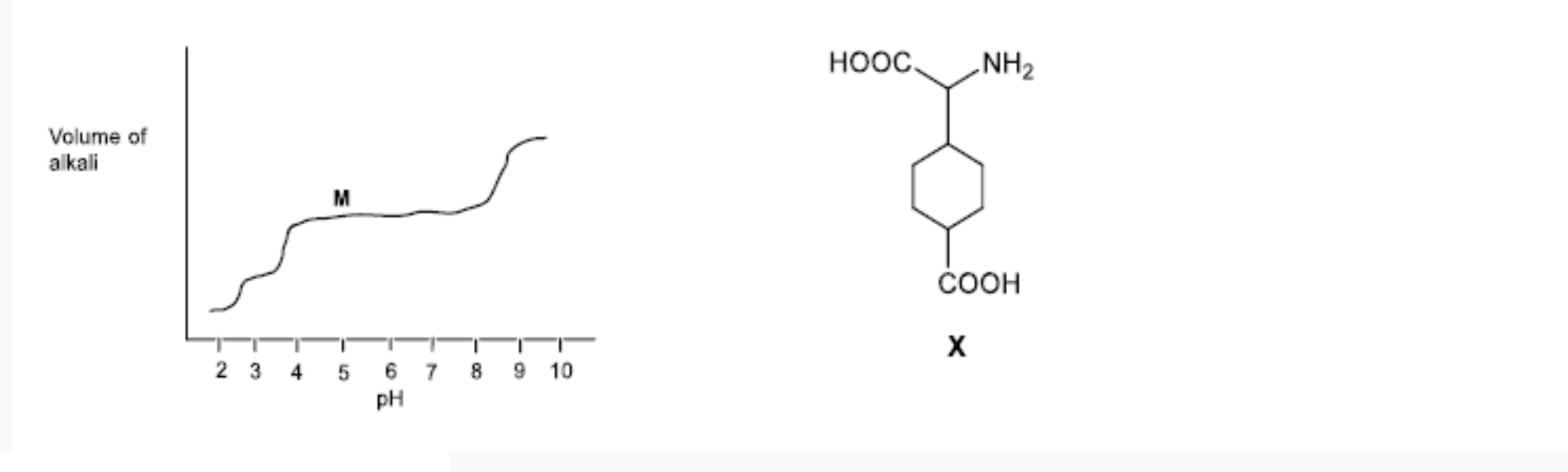
- a. Phenyl alanine
- b. Leucine
- c. Valine
- d. Glutamic acid

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 d.

9) Which form of an amino acid X will predominate at point 'M' in the following titration curve? 1 point



- a. NC(=O)C1CCCCC1C(=O)O
- b. NC(=O)C1CCCCC1C(=O)[O-]
- c. NC(=O)C1CCCCC1C(=O)[O-]
- d. NC(=O)C1CCCCC1C(=O)[O-]

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 d.

10) The net charge of the tetrapeptide KLER at pH 7 is 1 point

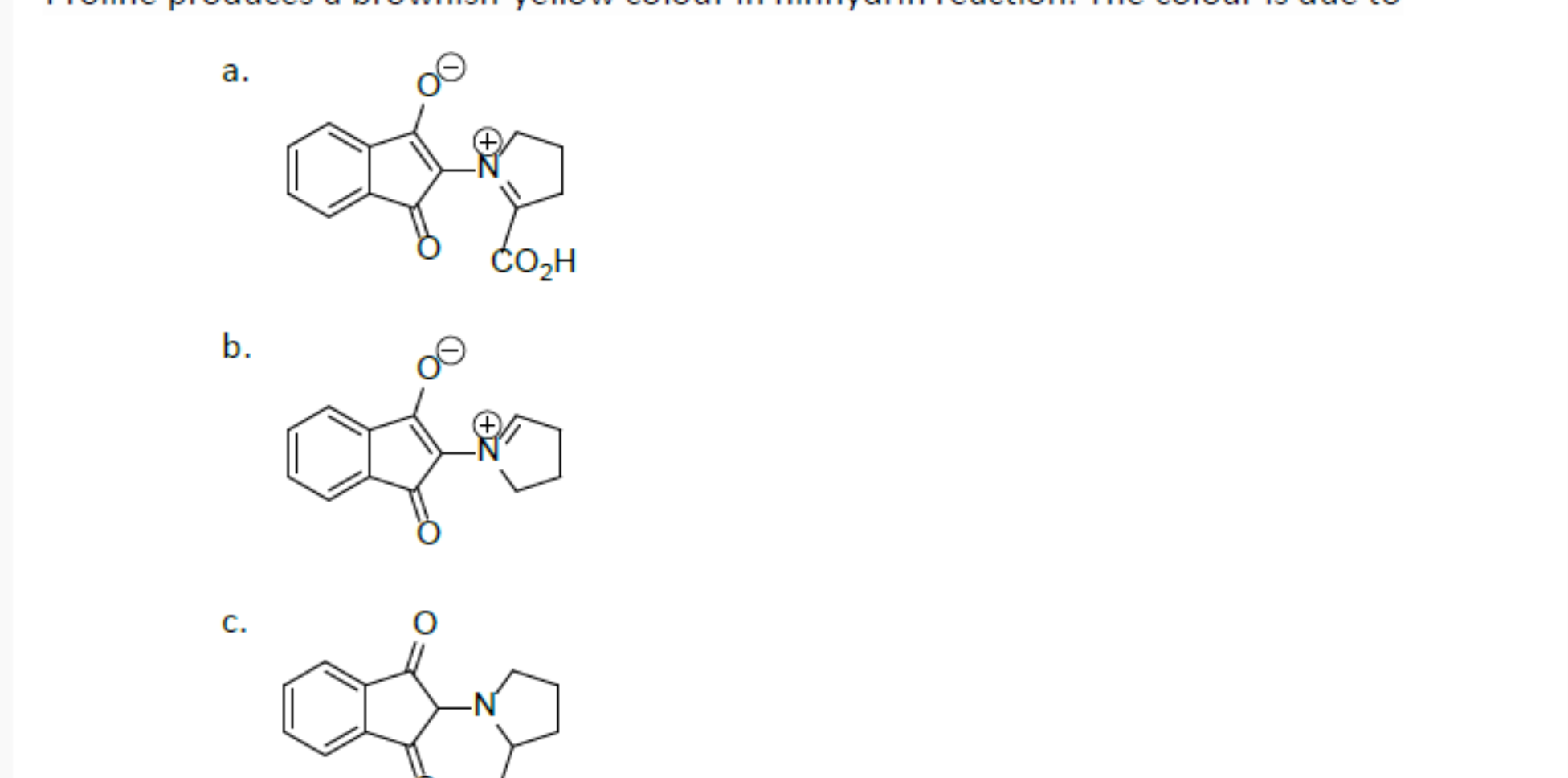
- a. +1
- b. +2
- c. -2
- d. neutral

- a.
 b.
 c.
 d.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 a.

11) Proline produces a brownish-yellow colour in ninhydrin reaction. The colour is due to 1 point



- a.
 b.
 c.

No, the answer is incorrect.
 Score: 0

Accepted Answers:
 b.