

Unit 10 - Week 8 :

Course outline

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Lecture 37 : Chemistry of cofactors/coenzymes (Contd.)

Lecture 38 : Chemistry of cofactors/coenzymes (Contd.)

Lecture 39 : Chemistry of cofactors/coenzymes (Contd.)

Lecture 40 : Chemistry of cofactors/coenzymes (Contd.)

 Quiz : Assignment 8

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Assignment 8

 The due date for submitting this assignment has passed.
 As per our records you have not submitted this assignment.

Due on 2019-09-25, 23:59 IST.

 1) Which one of the following sentences regarding NAD⁺ is INCORRECT?

1 point

- a) It contains a nicotinamide ring that accepts a hydride ion during reduction.
 b) It loses a positive charge upon reduction.
 c) It contains ATP as a part of its structure.
 d) It is a co-enzyme

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 c

2) Which of the following correctly pairs a coenzyme with the group transferred by that coenzyme?

1 point

- (a) Retinal, phosphoryl group
 (b) Biotin, CO₂
 (c) ATP, CH₃
 (d) Thiamine pyrophosphate, transamination

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 b

3) Which one of the following water-soluble vitamins forms part of the structure of CoA?

1 point

- (a) pantothenate
 (b) thiamine
 (c) riboflavin
 (d) pyridoxine

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 a

 4) The biosynthesis of γ -amino butyric acid (GABA) from L-glutamate and its deamination involves

1 point

- a) enzymes which are glutamate decarboxylase and GABA-deaminase and coenzymes biotin and PLP
 b) enzymes which are glutamate decarboxylase and GABA-transaminase and same coenzyme which is PLP
 c) enzymes which are glutamate transaminase and GABA-deaminase and coenzymes TPP and PLP
 d) enzymes which are glutamate decarboxylase and GABA-deaminase and coenzymes biotin and TPP

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 b

 5) The one carbon unit for the formation of N⁵,N¹⁰-methylene-THF is mostly obtained from which of the following conversion?

1 point

- a) methionine to homocysteine
 b) d-UMP to d-TMP
 c) 3-phosphoglycerate to serine
 d) Serine to glycine

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 d

6) Inhibition of dihydropteroate synthase during folic acid biosynthesis has lead to the development of

1 point

- a) an anti-cancer agent
 b) an anti-microbial agent
 c) an anti-diabetic agent
 d) an anti-hypertensive agent

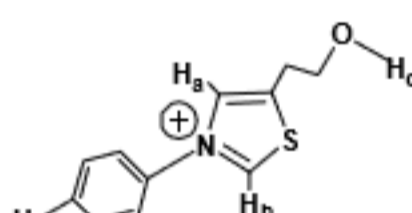
- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 b

 7) The hydrogens those are likely to get exchanged with deuterium when the following molecule is dissolved in D₂O

1 point



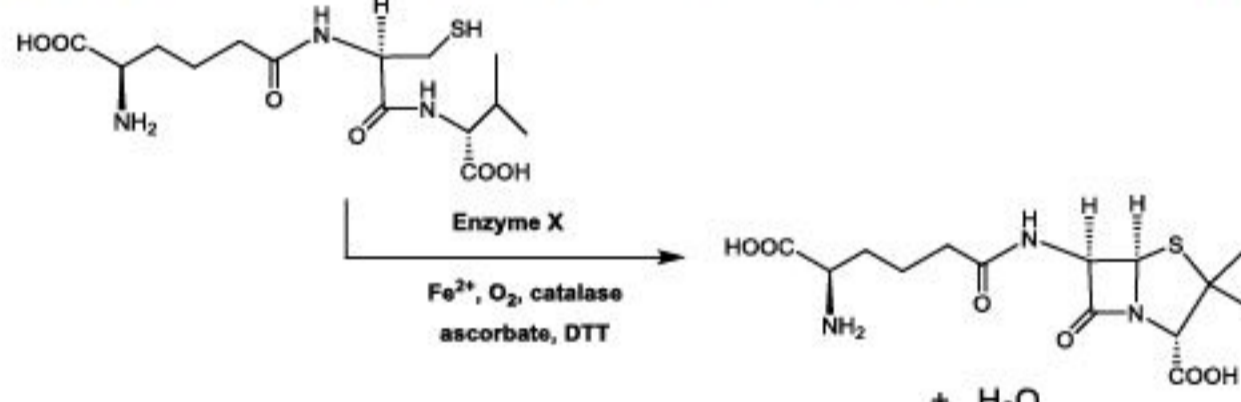
- a) H_a and H_b
 b) H_b and H_c
 c) H_a and H_c
 d) H_c and H_a

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 b

Consider the following transformation carried out by an enzyme X and answer the subsequent questions 8-9:



8) Which one of the following statements is TRUE?

1 point

- a) "X" is an oxidase enzyme and O₂ is a co-substrate
 b) "X" is a mono-oxygenase enzyme and O₂ is a co-substrate
 c) "X" is an oxidase enzyme and Fe²⁺ is a co-substrate
 d) "X" is a di-oxygenase enzyme and O₂ is a co-substrate

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 a

9) Which one of the following statements is INCORRECT?

1 point

- a) Fe²⁺ is a cofactor
 b) Ascorbate maintains the oxidation level of iron at +2 oxidation state
 c) Molecular oxygen accepts electrons and is reduced to water
 d) DTT acts as an oxidizing agent to keep the tripeptide in the thiol stage

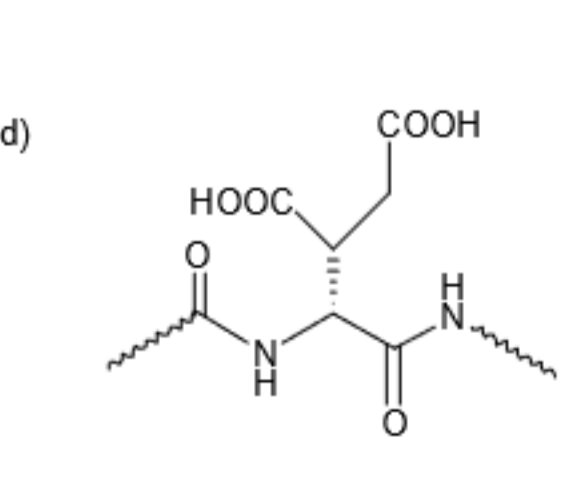
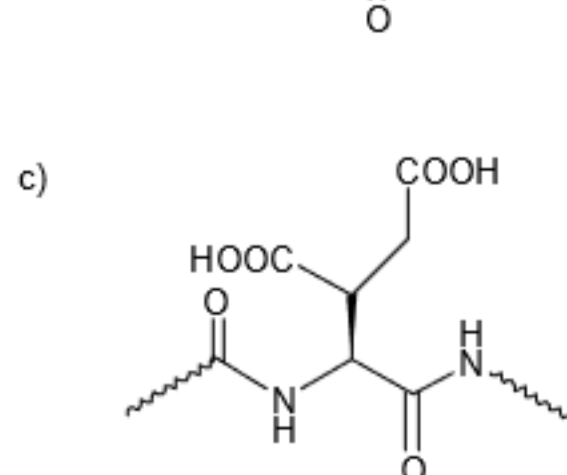
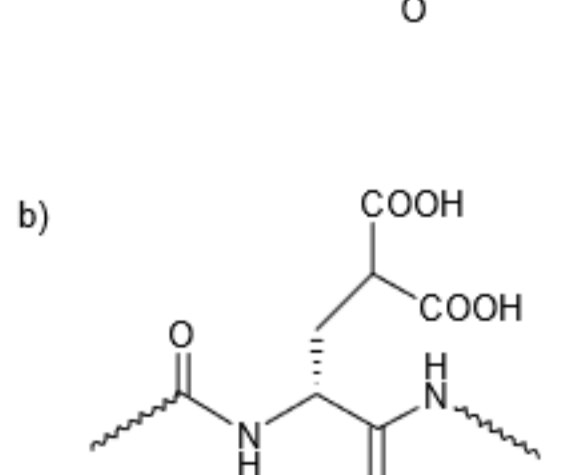
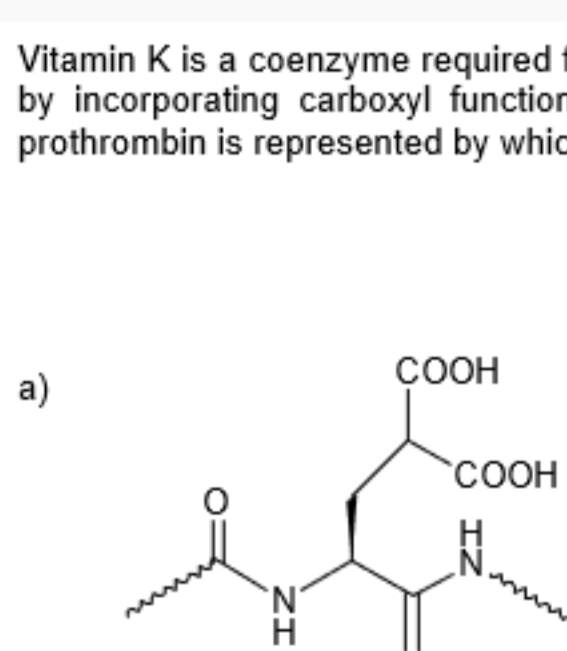
- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 d

10) Vitamin K is a coenzyme required for synthesis of matured form of certain proteins like prothrombin by incorporating carboxyl functionality to L-glutamyl residues in immature prothrombin. Mature prothrombin is represented by which structure?

1 point



- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

 Accepted Answers:
 a