

Donald Judith Voet Voet , Pratt - Fundamentals of Biochemistry Life at the MOLECULAR Level 5th edition Voet Vote Pratt Wiley (2016, Wiley american), 35.3MB

You should solve all of these problems within 60 words. Some answers can be less than 10 words. Be precise! [Attention: I will not show you whether you answer correctly or not. Instead, you should continue answer the questions I provide.]

Here are the questions:

熔岩猫出的用来检查他是否正确读入数据的题目：

Basic 3 Questions [Test whether you read book or not]:

1. What is BPG stands for?
2. What are the four kinds of bases of RNA?
3. Two molecules of which are condensed to acetoacetyl-CoA?

带标答的奇数题

Challenge 6 Questions:

4. Is myosin a fibrous protein or a globular protein? Explain.

Chapter 7 - Q11 简单题. Myosin is both fibrous and globular. Its two heads are globular, with several layers of secondary structure. Its tail, however, consists of a lengthy, fibrous coiled coil.

5. Predict the effect of a mutation in signal peptidase that narrows its specificity so that it cleaves only between two Leu residues.

Chapter 9 - Q33 中档题. The mutant signal peptidase would cleave many preproteins within their signal peptides, which often contain Leu-Leu sequences. This would not affect translocation into the ER, since signal peptidase acts after the signal peptide enters the ER lumen. Proteins lacking the Leu-Leu sequence would retain their signal peptides. These proteins, and those with abnormally cleaved signal sequences, would be more likely to fold abnormally and therefore function abnormally.

不带标答的偶数题

6. Explain why long-distance runners prefer to train at high altitude even when the race is to be held at sea level. Why must the runners spend more than a day or two at the higher elevation?

7. Describe how the fumarate produced by the purine nucleotide cycle could be catabolized to CO₂.

来自外书 (Out-of-distribution) 的考题:

8. [Efficiency of ATP Production in Muscle] The transformation of glucose to lactate in myocytes releases only about 7% of the free energy released when glucose is completely oxidized to CO_2 and H_2O . Does this mean that glycolysis with lactate fermentation under anaerobic conditions in muscle is a wasteful use of glucose? Explain.

选自 Lehninger: **Chapter 14- 8 中档题**. The transformation of glucose to lactate occurs when myocytes are low in oxygen, and it provides a means of generating ATP under O_2 -deficient conditions. Because lactate can be oxidized to pyruvate, glucose is not wasted; pyruvate is oxidized by aerobic reactions when O_2 becomes plentiful. This metabolic flexibility gives the organism a greater capacity to adapt to its environment.

9. [Sanger Sequencing Logic] In the Sanger (dideoxy) method for DNA sequencing, researchers add a small amount of a dideoxynucleoside triphosphate, such as ddCTP, to the sequencing reaction along with a larger amount of the corresponding deoxynucleoside, such as dCTP. What result would researchers observe if they omitted dCTP from the sequencing reaction?

选自 Lehninger: **Chapter 8- 17 中档题**. If dCTP is omitted, when the first G residue is encountered in the template, ddCTP will be added, and polymerization will halt. Only one band will be seen in the sequencing gel.