Assignment 4

The due date for submitting the assignment has passed.

Due on: 2021-11-17, 22:58 IST

Please review the assignment sheet and respond to the following questions:

1. Which of the following properties is not a key aspect of Transition State Theory?

2. In the protein's energy landscape, the reaction coordinate is:
   - the absolute maximum of the reaction coordinate.
   - the energy of the highest energy local minimum.
   - the minimum energy barrier.
   - all of the above.

3. Which of the following does NOT belong to the reaction coordinate in Transition State Theory?
   - the reaction coordinate is the energy of the highest energy local minimum.
   - the reaction coordinate is the minimum energy barrier.
   - the reaction coordinate is not a real number.
   - all of the above.

4. Which of the following statements is correct about transition state theory?
   - The reaction coordinate is the energy of the highest energy local minimum.
   - The reaction coordinate is the minimum energy barrier.
   - The reaction coordinate is not a real number.
   - All of the above.

5. Which of the following statements is correct about the reaction coordinate in transition state theory?
   - The reaction coordinate is the energy of the highest energy local minimum.
   - The reaction coordinate is the minimum energy barrier.
   - The reaction coordinate is not a real number.
   - All of the above.

6. Which of the following statements is correct about the reaction coordinate in transition state theory?
   - The reaction coordinate is the energy of the highest energy local minimum.
   - The reaction coordinate is the minimum energy barrier.
   - The reaction coordinate is not a real number.
   - All of the above.

7. According to transition state theory, what is the correct unit of rate constant of a bimolecular reaction?
   - mol/L·s
   - L·mol⁻¹·s⁻¹
   - mol/L·s⁻¹
   - L·mol⁻¹·s⁻¹

8. Write E0 if it is true and F if it is false.

   a. Reaction in favor of reactants.
   - E0
   - F

   b. Reaction in favor of products.
   - E0
   - F

   c. Reaction at equilibrium.
   - E0
   - F

9. According to the Arrhenius equation, which of the following statements is incorrect?
   - The activation energy is the energy difference between the reactants and the transition state.
   - The activation energy is the energy difference between the transition state and the products.
   - The activation energy is the energy difference between the products and the reactants.
   - All of the above.

10. According to the Arrhenius equation, which of the following statements is incorrect?
    - The activation energy is the energy difference between the reactants and the transition state.
    - The activation energy is the energy difference between the transition state and the products.
    - The activation energy is the energy difference between the products and the reactants.
    - All of the above.

11. According to the Arrhenius equation, which of the following statements is incorrect?
    - The activation energy is the energy difference between the reactants and the transition state.
    - The activation energy is the energy difference between the transition state and the products.
    - The activation energy is the energy difference between the products and the reactants.
    - All of the above.

12. According to the Arrhenius equation, which of the following statements is incorrect?
    - The activation energy is the energy difference between the reactants and the transition state.
    - The activation energy is the energy difference between the transition state and the products.
    - The activation energy is the energy difference between the products and the reactants.
    - All of the above.

13. According to the Arrhenius equation, which of the following statements is incorrect?
    - The activation energy is the energy difference between the reactants and the transition state.
    - The activation energy is the energy difference between the transition state and the products.
    - The activation energy is the energy difference between the products and the reactants.
    - All of the above.

14. According to the Arrhenius equation, which of the following statements is incorrect?
    - The activation energy is the energy difference between the reactants and the transition state.
    - The activation energy is the energy difference between the transition state and the products.
    - The activation energy is the energy difference between the products and the reactants.
    - All of the above.

15. According to the Arrhenius equation, which of the following statements is incorrect?
    - The activation energy is the energy difference between the reactants and the transition state.
    - The activation energy is the energy difference between the transition state and the products.
    - The activation energy is the energy difference between the products and the reactants.
    - All of the above.

16. According to the Arrhenius equation, which of the following statements is incorrect?
    - The activation energy is the energy difference between the reactants and the transition state.
    - The activation energy is the energy difference between the transition state and the products.
    - The activation energy is the energy difference between the products and the reactants.
    - All of the above.