Assignment 5

The due date for submitting this assignment has passed.

Due on 2021-02-24, 23:00 HST.

As per the records you have not submitted this assignment.

1. [1 point]
   - The transition state theory for a molecule of H2O, considered as a molecule of H2O, should be calculated as a reaction of 300 K.
   - The transition state theory (TST) is based on the assumption that the reaction coordinate is a smooth function of the reaction coordinate.
   - The reaction coordinate is a path that connects the reactants and products.

2. [1 point]
   - Transition state theory (TST) assumes that the flux across the flux surface at the transition state separating the products from the reactants is
   - The flux across the flux surface at the transition state separating the products from the reactants is given by
   - The flux across the flux surface at the transition state separating the products from the reactants is given by $J(TS) = \frac{k}{\pi} \frac{\Delta G^\circ}{RT}$.

3. [1 point]
   - Space-time evolution of the population of the reactants.
   - The space-time evolution of the population of the reactants is given by
   - The space-time evolution of the population of the reactants is given by $N(t) = N_0 e^{-k t}$.

4. [1 point]
   - The total number of vibrational frequencies required for the transition state theory rate constant is obtained by evaluating the transition state frequency.
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5. [1 point]
   - Consider the following reaction:
   - Consider the following reaction:
   - The reaction is given by $A + B \rightarrow C + D$.

6. [1 point]
   - The rate expression for this reaction is
   - The rate expression for this reaction is given by $\frac{d[N]}{dt} = k [A][B]$.
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7. [1 point]
   - The rate expression for this reaction is
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8. [1 point]
   - The rate expression for this reaction is
   - The rate expression for this reaction is
   - The rate expression for this reaction is

9. [1 point]
   - The rate expression for this reaction is
   - The rate expression for this reaction is
   - The rate expression for this reaction is

10. [1 point]
    - The rate expression for this reaction is
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