Unit 10 - Ab Initio Molecular Dynamics of Photochemistry and Photophysics – Part 2

Assessment week 9

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

Due on 2019-10-02, 23:59 IST.

1) What is the natural timescale of nuclear motion? *1 point*

- femtosecond
- microsecond
- nanosecond
- attosecond

No, the answer is incorrect.
Score: 0
Accepted Answers:
femtosecond

2) Under harmonic oscillator approximation, ground vibrational state represents? *1 point*

- a Gaussian
- an exponential
- a linear
- a quadratic function.

No, the answer is incorrect.
Score: 0
Accepted Answers:
a Gaussian

3) What is the natural timescale of electronic motion? *1 point*

- femtosecond
- microsecond
- nanosecond
- attosecond

No, the answer is incorrect.
Score: 0
Accepted Answers:
attosecond

4) Does reaction rate depend on the temperature? *1 point*

- Yes, it increases with temperature
- No, it does not
- Yes, it decreases with temperature
- It increases only if activation energy is changing as a function of temperature.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Yes, it increases with temperature

5) How many normal modes of vibration are assigned to the reaction coordinate in the transition state theory (TST)? *1 point*

- 3
- 2
- 1
- 0

No, the answer is incorrect.
Score: 0
Accepted Answers:
1

6) What was the time resolution achieved in the first flash photolysis experiments performed by Porter? *1 point*

- fs
- µs
- ns
- ps

No, the answer is incorrect.
Score: 0
Accepted Answers:
µs

7) Who was awarded chemistry Nobel prize in 1967 for studying fast chemical reactions in microsecond time resolution? *1 point*

- A. Zewail
- Porter
- Einstein
- Evans

No, the answer is incorrect.
Score: 0
Accepted Answers:
Porter

8) Who was awarded chemistry Nobel prize in 1999? *1 point*

- A. Zewail
- Porter
- Einstein
- Evans

No, the answer is incorrect.
Score: 0
Accepted Answers:
A. Zewail

9) What is the spin multiplicity of a quartet state? *1 point*

- 2
- 3
- 4
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:
4

10) What is the spin multiplicity of O2 in its ground state? *1 point*

- 2
- 3
- 4
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:
3

You were allowed to submit this assignment only once.