Unit 12 - Attosecond Chemical Dynamics – Experimental Point of View

Week11 Assignment

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

Due on 2019-10-16, 23:59 IST.

1) What is true for a catalytic reaction? *2 points*

- activation energy is suppressed
- reaction rate is increased
- catalyst is not consumed in the reaction
- all true

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

2) What is the typical time scale for heat exchange between electron and phonon baths? *2 points*

- 1 fs
- 1 ps
- 1 ns
- 1 μs

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

3) phase-matching in HHG is primarily controlled by (review) *2 points*

- pressure of the gaseous medium
- thickness of the nonlinear crystal
- refractive index of plasma
- temperature of the medium.

No, the answer is incorrect.
Score: 0
Accepted Answers:
pressure of the gaseous medium

4) Molecular electrostatic potential includes potential (review) *1 point*

- due to electron-electron interaction
- due to electron-nuclei interaction
- due to both electron-electron and electron-nuclei interaction
- due to none of above

No, the answer is incorrect.
Score: 0
Accepted Answers:
due to both electron-electron and electron-nuclei interaction

5) Which one of the following is true? (review) *1 point*

- Frenkel excitons typically exhibit larger exciton binding energies than Mott-Wannier exciton
- Mott-Wannier exciton binding energies are not comparable to the thermal energy kT
- Frenkel excitons binding energies are comparable to the thermal energy kT
- Mott-Wannier exciton typically exhibit larger exciton binding energies than Frenkel excitons.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Frenkel excitons typically exhibit larger exciton binding energies than Mott-Wannier exciton

6) Which one of the following is true? (review) *1 point*

- Frenkel excitons typically exhibit larger exciton binding energies than Mott-Wannier exciton
- Mott-Wannier exciton binding energies are not comparable to the thermal energy kT
- Frenkel excitons binding energies are comparable to the thermal energy kT
- Mott-Wannier exciton typically exhibit larger exciton binding energies than Frenkel excitons.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Frenkel excitons typically exhibit larger exciton binding energies than Mott-Wannier exciton

7) Typical lifetime of Plasmon of a nanoparticle is (review) *1 point*

- 2 ps
- 2 ns
- 2 fs
- 2 μs

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

8) Rate of IC and ISC can be comparable in a photochemical process due to (review) *1 point*

- strong spin-spin coupling
- strong spin-orbit coupling
- strong orbital angular momentum
- strong spin angular momentum

No, the answer is incorrect.
Score: 0
Accepted Answers:
strong spin-spin coupling

You were allowed to submit this assignment only once.