

Unit 10 - Week 9

Course outline

How to access the portal?

Week 1

Week 2

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Week 5

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Week 7

Week 8

Week 9

 Application of Fluorescence Spectroscopy

 Application of Steady-State Fluorescence

 Quiz : Assignment 9

 Feedback

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Week 12

Download Videos (mp4,flv,3gp,mp3)

Lecture Slides

Assignment 9

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

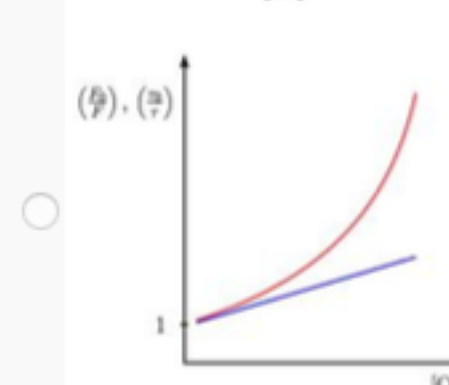
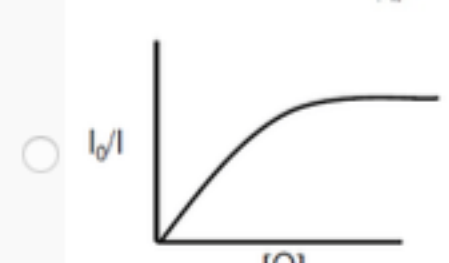
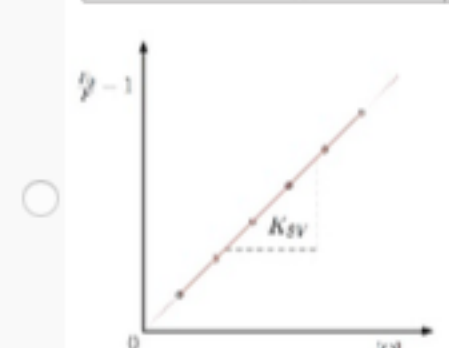
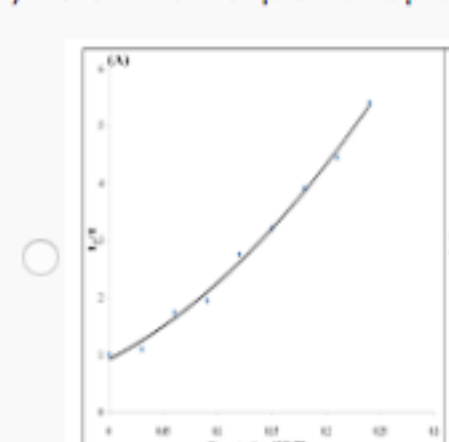
Due on 2019-10-02, 23:59 IST.

 1) For static quenching (exothermic reaction) and collisional quenching, the effect of increasing temperature on K_a and K_{SV} , respectively is: 1 point

- Increases and decreases
- Decreases and increases
- Both increases
- Both decreases

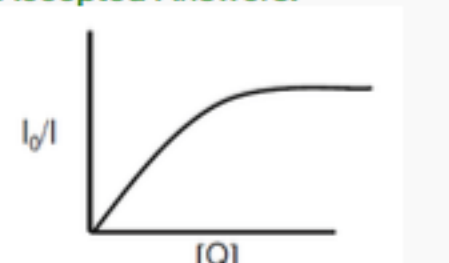
No, the answer is incorrect. Score: 0

Accepted Answers: Decreases and increases

 2) Stern-Volmer plot for a protein having multiple tryptophan will look like: 1 point


No, the answer is incorrect. Score: 0

Accepted Answers:


 3) The incorrect statement about the FRET is: 1 point

- Energy Transfer occurs without the appearance of photon
- The emission spectrum of donor and the absorption spectrum of the acceptor must have a spectral overlap
- FRET is a non-radiative process
- FRET efficiency is independent of the distance between the donor and acceptor

No, the answer is incorrect. Score: 0

Accepted Answers:

FRET efficiency is independent of the distance between the donor and acceptor

 4) Out of the following statements about FRET, the correct one(s) is: 1 point

- I. Acceptor molecule has to be fluorescent
- II. Energy transfer occurs with the appearance of photon
- III. RET involves the emission of light by donor
- IV. Quenching is due to a long-range interaction

- IV is correct
- I and III are correct
- I, II and III are correct
- II and IV are correct

No, the answer is incorrect. Score: 0

Accepted Answers:

IV is correct

 5) How does the efficiency of transfer depends on the distance between donor and acceptor molecules: 1 point

- Inversely proportional to the distance
- Varies with the inverse second power of the distance
- Varies with the inverse sixth power of the distance
- Does not depend on distance

No, the answer is incorrect. Score: 0

Accepted Answers:

Varies with the inverse sixth power of the distance

 6) A linear Scatchard plot with equal intercept and ligand is obtained for: 1 point

- 1:1 protein-ligand interaction
- 1:2 protein-ligand interaction
- 1:3 protein-ligand interaction
- 1:4 protein-ligand interaction

No, the answer is incorrect. Score: 0

Accepted Answers:

1:1 protein-ligand interaction

 7) Scatchard plot is the plot of: 1 point

- $v/[L]$ vs $1/v$
- $1/[L]$ vs v
- $v/[L]$ vs v
- $v[L]$ vs $1/v$

No, the answer is incorrect. Score: 0

Accepted Answers:

 $v/[L]$ vs v

 8) The integrated first order rate equation, in terms of the fluorescence spectroscopic signals Y_0 , Y_t and Y_∞ at time 0, t and ∞ , is: 1 point

- $\frac{Y_0 - Y_\infty}{Y_t - Y_\infty} = kt[A]_0 + 1$
- $\ln \frac{[A]_0}{[A]} = \ln \frac{Y_0 - Y_\infty}{Y_t - Y_\infty} = kt$
- $\frac{Y_0 - Y_\infty}{Y_t - Y_\infty} = kt[A]_0 - 1$
- $\ln \frac{[A]}{[A]_0} = \ln \frac{Y_0 - Y_\infty}{Y_t - Y_\infty} = kt$

No, the answer is incorrect. Score: 0

Accepted Answers:

 $\ln \frac{[A]_0}{[A]} = \ln \frac{Y_0 - Y_\infty}{Y_t - Y_\infty} = kt$

 9) Upon increasing the concentration of denaturant, tryptophan fluorescent intensity of protein: 1 point

- Increases
- No effect
- Decreases
- May increase or decrease

No, the answer is incorrect. Score: 0

Accepted Answers:

Decreases

 10) Energy transfer efficiency, when measured fluorescence intensities of donor in presence and absence of acceptor are 0.4 and 0.8 respectively, is: 1 point

- 0.68
- 0.80
- 0.20
- 0.50

No, the answer is incorrect. Score: 0

Accepted Answers:

0.50