Unit 6 - Week 5

Assignment 5

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

Due on 2019-09-04, 23:59 IST.

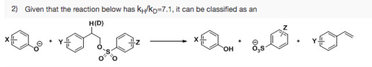
1) The correct order of Y values (Grunwald and Winstein) for the solvents given is . *1 point*

- $CH_3CH_2OH < CH_3COOH < CF_3COOH < HCOOH < H_2O$
- $CH_3CH_2OH < HCOOH < CH_3COOH < CF_3COOH < H_2O$
- $CH_3COOH < CH_3CH_2OH < HCOOH < CF_3COOH < H_2O$
- $CH_3COOH < CH_3CH_2OH < HCOOH < H_2O < CF_3COOH$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$CH_3CH_2OH < CH_3COOH < CF_3COOH < HCOOH < H_2O$

2) Given that the reaction below has k_H/k_D=7.1, it can be classified as an *1 point*

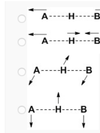


- E1 reaction
- E2 reaction
- S_N2 reaction
- S_N1 reaction

No, the answer is incorrect.
Score: 0

Accepted Answers:
E2 reaction

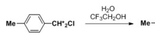
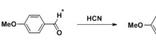
3) Which of the following vibrational modes correspond to the reaction coordinate of the given reaction? *1 point*



No, the answer is incorrect.
Score: 0

Accepted Answers:

4) Match the reactions in column A with their corresponding k_H/k_D values in column B *1 point*

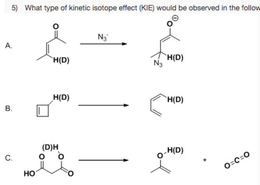
Column A: Reaction		Column B: k_H/k_D
i)		a) 1.3
ii)		b) 0.8
iii)		c) 4.6

- i-a, ii-c, iii-b
- i-c, ii-a, iii-b
- i-b, ii-a, iii-c
- i-c, ii-b, iii-a

No, the answer is incorrect.
Score: 0

Accepted Answers:
i-c, ii-a, iii-b

5) What type of kinetic isotope effect (KIE) would be observed in the following reactions? *1 point*



- A = Inverse Secondary KIE, B = Secondary KIE, C= Primary KIE
- A = Primary KIE, B = Secondary KIE, C= Inverse Secondary KIE
- A = Secondary KIE, B = Primary KIE, C= Inverse Secondary KIE
- A = Inverse Secondary KIE, B = Primary KIE, C= Secondary KIE

No, the answer is incorrect.
Score: 0

Accepted Answers:
A = Inverse Secondary KIE, B = Secondary KIE, C= Primary KIE

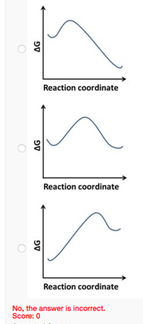
6) Which of the following statements is/are correct? *1 point*

- ZPE of C-D bond is lower than C-H because of its higher reduced mass.
- ZPE of C-D bond is higher than C-H because of its higher reduced mass.
- Secondary KIE is observed because C-H bond is larger than C-D bond.
- Secondary KIE is observed because C-D bond is larger than C-H bond.

No, the answer is incorrect.
Score: 0

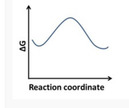
Accepted Answers:
ZPE of C-D bond is lower than C-H because of its higher reduced mass.
Secondary KIE is observed because C-H bond is larger than C-D bond.

7) For which of the following reaction-coordinate diagrams would you predict the highest primary kinetic isotope effect? *1 point*

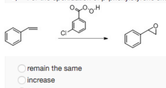


No, the answer is incorrect.
Score: 0

Accepted Answers:



8) For the epoxidation of p-phenylstyrene shown, if m-Cl-C_6H_4-CO_3D is used as the reagent instead of m-chloroperbenzoic acid, the reaction rate will *1 point*

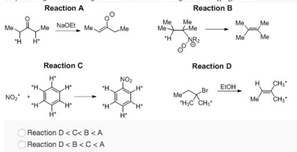


- remain the same
- increase
- decrease

No, the answer is incorrect.
Score: 0

Accepted Answers:
decrease

9) Arrange the following reactions in the increasing order of k_H/k_D values *1 point*



- Reaction D < C< B < A
- Reaction D < B < C < A
- Reaction C < D < B < A
- Reaction C < D < A < B

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reaction C < D < B < A

10) The reaction of chloride with methyl iodide will be relatively fastest in *1 point*

- Methanol
- Nitromethane
- Water
- DMF

No, the answer is incorrect.
Score: 0

Accepted Answers:
DMF