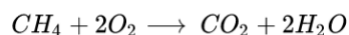


Quiz for Video 2 – Kinetics

1. The rate of the forward chemical reaction depends only on the concentration of:

- a. Reactants
- b. Products
- c. Cannot be determined

2. For the reaction:



At a specific point in time, the rate of change of the water concentration is +5.0 M/s. What is the rate of change of the methane (CH_4)?

- a. 5.0 M/s
- b. 2.5 M/s
- c. -5.0 M/s
- d. -2.5 M/s

3. Which of the following shows a rate law that is 3rd order overall?

- a. $\text{rate} = k[\text{A}][\text{B}]$
- b. $\text{rate} = k[\text{A}]$
- c. $\text{rate} = k[\text{A}]^2[\text{B}]$
- d. $\text{rate} = k[\text{A}]^3[\text{B}]$

4. Which of the following shows a rate law that is 1st order with respect to reactant A?

- a. $\text{rate} = k[\text{A}][\text{B}]$
- b. $\text{rate} = k[\text{A}]^2[\text{B}]$
- c. $\text{rate} = k[\text{B}]$
- d. $\text{rate} = k[\text{B}]^2$

5. For the following reaction:



What is the rate of change of the concentration of reactant A ($\frac{\Delta[\text{A}]}{\Delta t}$) if the rate of the forward reaction is 2.0 M/s?

- a. +2.0 M/s
- b. -2.0 M/s
- c. -1.0 M/s
- d. +1.0 M/s

6. For the following reaction:



What is the rate of change of the concentration of reactant C ($\frac{\Delta[\text{C}]}{\Delta t}$) if the rate of the forward reaction is 0.150 M/s

- a. +0.000 M/s
- b. +0.150 M/s
- c. +0.300 M/s
- d. +2.00 M/s

7. Kinetics is useful because it helps us to understand:

- a. The time it takes a reaction to proceed
- b. The mechanism of a reaction
- c. The way changing reactant changes a reaction's rate
- d. All of the above

8. For a reaction that obeys the following rate law:

$$\text{Rate} = k[\text{A}]$$

How will the rate of reaction change if I triple [A], the molar concentration of A?

- a. It will not change
- b. It will double (x2)
- c. It will triple (x3)
- d. It will go half as fast (x0.5)

9. For a reaction that obeys the following rate law:

$$\text{Rate} = k[\text{B}]^2$$

How will the rate of reaction change if I double [B], the molar concentration of B?

- a. It will not change
- b. It will double (x2)
- c. It will triple (x3)
- d. It will quadruple (x4)