

# Participation Assignment

## CHEM 1100-General Chemistry II

Name:

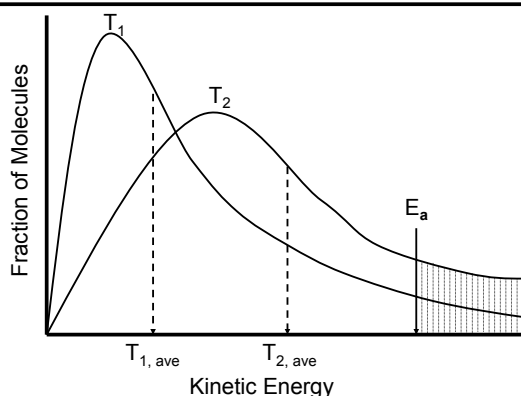
#8

Section: 31, MWF

Due Date: Friday 7/28/2017

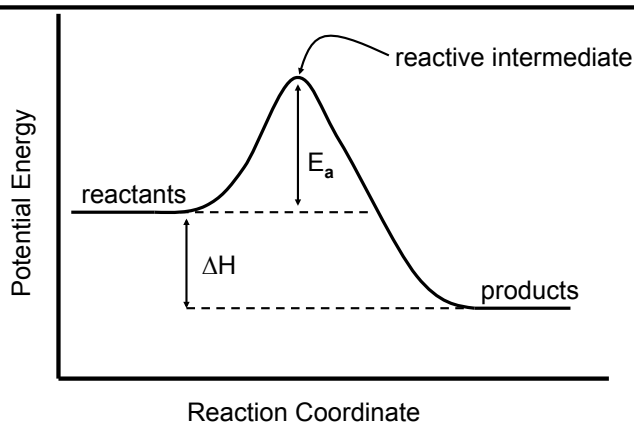
### Chemical Kinetics

Theoretical Models-Collision Theory



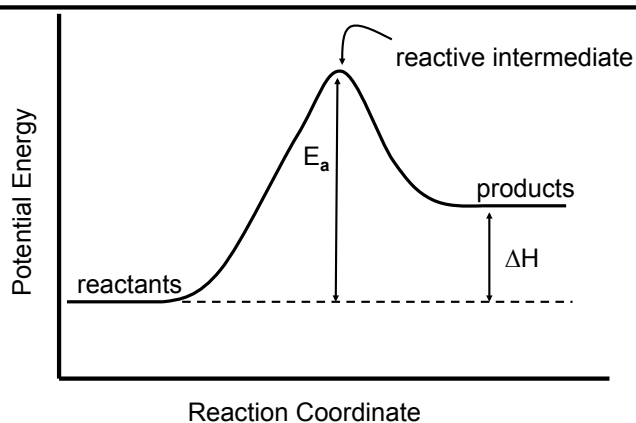
### Chemical Kinetics

Theoretical Models-Collision Theory



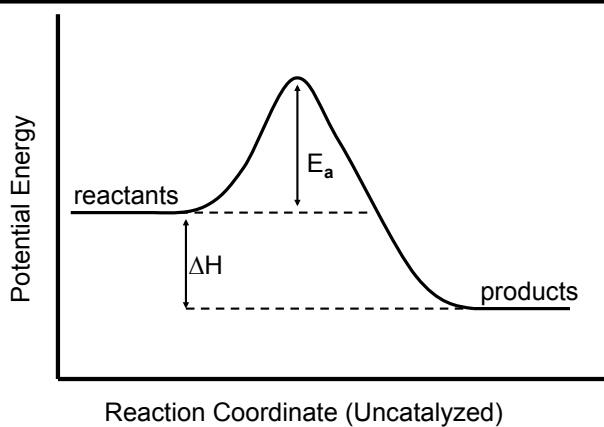
### Chemical Kinetics

Theoretical Models-Collision Theory



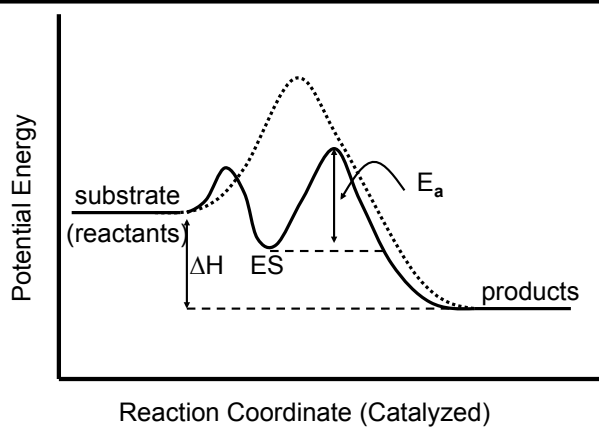
### Chemical Kinetics

Catalysts-Energy Diagram

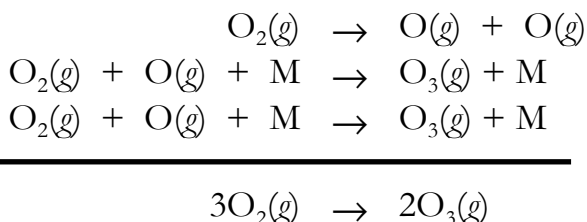


### Chemical Kinetics

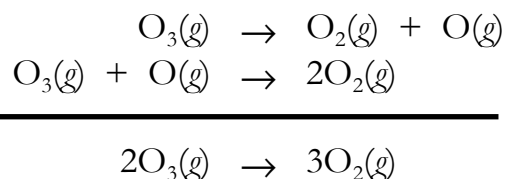
Catalysts-Energy Diagram



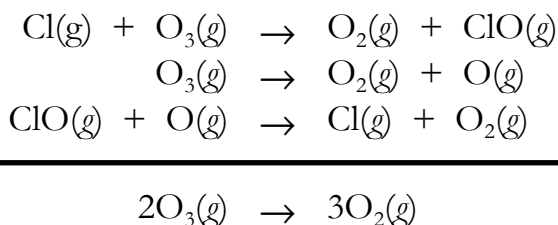
## Formation of Ozone



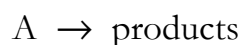
## Decomposition of Ozone



## Catalyzed Decomposition of Ozone



## Unimolecular Step:



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

## Bimolecular Step:



$$\text{rate} = k[\text{A}]^2$$

$$\text{rate} = k[\text{A}][\text{B}]$$

## Termolecular Step:

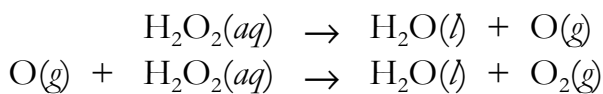


$$\text{rate} = k[\text{A}]^3$$

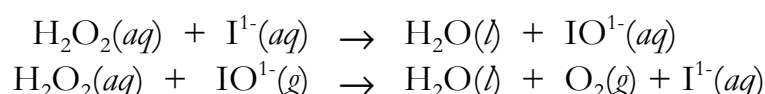
$$\text{rate} = k[\text{A}][\text{B}][\text{C}]$$

## Decomposition of Hydrogen Peroxide

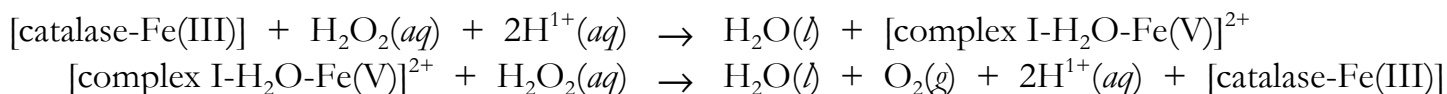
### Uncatalyzed



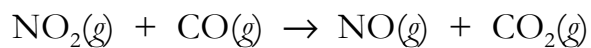
### Catalyzed (I<sup>1-</sup>)



### Catalyzed (Catalase)



1. The overall reaction between nitrogen dioxide and carbon monoxide may be written as follows:



Below 225 °C, the rate law is:

$$\text{rate} = k[\text{NO}_2]^2$$

Verify that the following mechanism is consistent with the rate law:

