Review

- How is a reaction rate measured?
- What must occur for a successful reaction?
- What is the activation energy of a reaction?
- What is an activated complex?

May 17-10:57 AM

Describe, in detail, how each of the following would affect the rate of a reaction:

- Heating the reaction.
- Crushing the reactants.
- Adding a catalyst.

May 17-11:00 AM

Calculate the equilibrium constant:

$2NO\ (g) + 2H_2\ (g) \leftrightarrow N_2\ (g) + 2H_2O\ (g)$

- Calculate K_{eq} if
- $[NO]=1.5x10^{-2}M$,
- $[H_2]=2.35x10^{-3}M$,
- $[N_2]=8.24x10^{-2}M$,
- $[H_2O]=6.03x10^{-2}M$.

- Are the reactants or products favored at equilibrium? How do you know?
- The magnitude (value) of K_{eq} is dependent only on which variable?

May 17-11:00 AM

Answer the following with shift left or shift right or no change & explain your answer:

$CH_{4(g)} + 2O_{2(g)} \text{ <---> } CO_{(g)} + 2H_2O_{(g)} + \text{heat}$

- Which way will the reaction shift if CH_4 is added?
- Which way if the temperature is raised?
- Which way if water is removed?
- Which way if the volume is increased?

May 17-11:00 AM

Write the K_{sp} expressions for the slightly soluble salt:

- $Mg(OH)_2$

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Rate Laws

- The following experimental data were obtained for reaction at 250 K: $F_2 + 2\ ClO_2$ -----> $2\ FClO_2$

[F2]	[ClO2]	Rate M/s
0.10	0.01	1.2 x 10-3
0.10	0.04	4.8 x 10-3
0.20	0.01	4.8 x 10-3

- Write the rate law for this reaction.

May 17-11:01 AM

Ksp

Calculate the solubility (in mol/L) of barium sulfate. The solubility product constant for barium sulfate is 1.08×10^{-10}

May 17-11:01 AM

Ksp

Calculate the Ksp for AgBr if a saturated solution has a concentration of 7.35×10^{-7}

May 17-11:02 AM