Click on link: <https://screencast-o-matic.com/watch/cbeo3r6Bxf>

1. “Description” (upper right) and copy the forward reaction:

2. “Description” (upper right) and copy the reverse reaction:

A. Set each item to 0.005 M concentration. Which reaction is factored (forward or reverse)? [*The reaction that has the most ions is favored]*

Which way would the arrow be the longest when writing the equation?

B. Set the reactants to 0.001 M concentration, and the product to 0.000 M. Which reaction is factored (forward or reverse)? [*The reaction that has the most ions is favored]*

Which way would the arrow be the longest when writing the equation?

C. Set the reactants to 0.01 M concentration, and the product to 0.005 M. Which reaction is factored (forward or reverse)? [*The reaction that has the most ions is favored]*

Which way would the arrow be the longest when writing the equation?

2. If an external stress is applied to a system at equilibrium, the system adjusts to relieve the stress.

A. “Change in Concentration” & write the overall chemical equation:

What color does the solution in the beaker have?

1. “Add NaSCN”. Rewrite the equation as shown:

What color does the solution in the beaker have?

The shift in equilibrium favors the (reactants/ products).

2. “Remove Fe”. Rewrite the equation as shown:

What color does the solution in the beaker have?

The shift in equilibrium favors the (reactants/ products).

B. “Change in Pressure” & write the overall chemical equation:

What color does the solution in the beaker have?

1. “Increase Pressure”. Rewrite the equation as shown:

What color does the solution in the beaker have?

The shift in equilibrium favors the (reactants / products).

2. “Decrease Pressure”. Rewrite the equation as shown:

What color does the solution in the beaker have?

The shift in equilibrium favors the (reactants / products).

C. “Change in Temperature” & write the overall chemical equation:

What color does the solution in the beaker have?

1. “Increase Temperature”. Rewrite the equation as shown:

What color does the solution in the beaker have?

The shift in equilibrium favors the (reactants / products).

2. “Decrease Pressure”. Rewrite the equation as shown:

What color does the solution in the beaker have?

The shift in equilibrium favors the (reactants / products).

Answer Key

1. “Description” (upper right) and copy the forward reaction:

**Fe+3 (aq) + SCN- (aq) 🡪 FeSCN+2 (aq)**

2. “Description” (upper right) and copy the reverse reaction:

**FeSCN+2 (aq) 🡪 Fe+3 (aq) + SCN- (aq)**

A. Set each item to 0.005 M concentration. Which reaction is factored (forward or **reverse**)? [*The reaction that has the most ions is favored]*

Which way would the arrow be the longest when writing the equation (**left**)?

**Fe+3 (aq) + SCN- (aq) 🡨 FeSCN+2 (aq)**

5.58 x 10-3 M 5.58 x 10-3 M 4.42 x 10-3 M

B. Set the reactants to 0.001 M concentration, and the product to 0.000 M. Which reaction is factored (forward or **reverse**)? [*The reaction that has the most ions is favored]*

Which way would the arrow be the longest when writing the equation (**left**)?

**Fe+3 (aq) + SCN- (aq) 🡨 FeSCN+2 (aq)**

8.88 x 10-4 M 8.88 x 10-4 M 1.12 x 10-4 M

C. Set the reactants to 0.01 M concentration, and the product to 0.005 M. Which reaction is factored (**forward** or reverse)? [*The reaction that has the most ions is favored]*

Which way would the arrow be the longest when writing the equation (**right**)?

**Fe+3 (aq) + SCN- (aq) 🡪 FeSCN+2 (aq)**

3.74 x 10-3 M 3.74 x 10-3 M 7.66 x 10-3 M

2. If an external stress is applied to a system at equilibrium, the system adjusts to relieve the stress.

A. “Change in Concentration” & write the overall chemical equation:

**FeSCN+2 (aq) ↔ Fe+3 (aq) + SCN- (aq)**

What color does the solution in the beaker have? **Orange/red**

1. “Add NaSCN”. Rewrite the equation as shown:

**FeSCN+2 (aq) 🡨 Fe+3 (aq) + SCN- (aq) system shifts to the left**

What color does the solution in the beaker have? **Red**

The shift in equilibrium favors the (**reactants** / products).

2. “Remove Fe”. Rewrite the equation as shown:

**FeSCN+2 (aq) 🡪 Fe+3 (aq) + SCN- (aq) system shifts to the right**

What color does the solution in the beaker have? **yellow**

The shift in equilibrium favors the (reactants/ **products**).

B. “Change in Pressure” & write the overall chemical equation:

**I2 (g) ↔ 2I(g)**

What color does the solution in the beaker have? **purple**

1. “Increase Pressure”. Rewrite the equation as shown:

**I2 (g) 🡨 2I(g) system shifts to the left**

What color does the solution in the beaker have? **purple**

The shift in equilibrium favors the (**reactants** / products).

2. “Decrease Pressure”. Rewrite the equation as shown:

**I2 (g) 🡪 2I(g) system shifts to the right**

What color does the solution in the beaker have? **colorless**

The shift in equilibrium favors the (reactants/ **products**).

C. “Change in Temperature” & write the overall chemical equation:

**N2O4 (g) ↔ 2NO2(g)**

What color does the solution in the beaker have? **brown**

1. Click on “Increase Temperature”. Rewrite the equation as shown:

**Heat + N2O4 (g) 🡪 2NO2(g) system shifts to the right**

What color does the solution in the beaker have? **brown**

The shift in equilibrium favors the (reactants/ **products**).

2. “Decrease Pressure”. Rewrite the equation as shown:

**N2O4 (g) 🡪 2NO2(g) + Heat system shifts to the left**

What color does the solution in the beaker have? **colorless**

The shift in equilibrium favors the (**reactants** / products).