**Names:**

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| --- |
| **Stressing an Equilibrium System by Changing the Concentration of Ions in Solution**First you will examine the equilibrium resulting from the combination of iron (3), Fe3+ ions and thiocyanate SCN- ions. |
| Mme. Veilleux and Ms. Purcell added 25 mL of 0.0020 mol/L **KSCN** to a 100 mL beaker.To this soln they added 25 mL of 0.020 mol/L **Fe(NO3)3** soln.The equilibrium expression for the formation of iron(III) thiocyanate is as follows:

|  |
| --- |
| http://www.chem.uiuc.edu/chem103/equilibrium/images/equation1.png |

 |

**There are 4 bottles at the front to observe only!!!!**

|  |  |  |
| --- | --- | --- |
| **Solution** | **Ion Dissociation Equation** | **Colour of Ions Present** |
| **KSCN** |  |  |
| **KNO3** |  |  |
| **Fe(NO3)3** |  |  |

**You will stress the equilibrium system by adding or subtracting Reactants i.e. increasing or decreasing the concentration of the Reactants.**

Pour a ½ cm depth of the equilibrium soln into 6 test tubes.

The first test tube is a **reference** test tube.

You will compare the other 5 test tubes to this **reference** test tube.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Tubes** | **Stress** | **Colour** | **Shift** | **Why? (Want)** |
| **1** | **None** |  | **None** |  |
| **2** | 10 drops of Fe(NO3)3 |  |  |  |
| **3** | 10 drops KSCN |  |  |  |
| **4** | 10 drops of AgNO3 |  |  |  |
| **5** | 10 drops of NaOH |  |  |  |
| **6** | 10 drops of FeCl3 |  |  |  |

**Analysis**

1) Is the reaction reversible? How do you know?

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2) What is the **BCE** for what happened when silver nitrate was added to the equilibrium mixture?

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