EXPERIMENT/SUBJECT	DATE	
LAB PARTNER	LOCKER/DESK NO.	COURSE & SECTION NO.

Discussion

PART A of the experiment assumed that the chemical reaction $Fe^{3+}(aq) + SCN^-(aq) \rightleftharpoons FeSCN^{2+}(aq)$ went to completion. This assumption was made because the excess iron (III) nitrate forced all of the SCN^- ions to react and form a known concentration of $FeSCN^{2+}_{(aq)}$.

In part B, increasing absorbancies and concentrations of $FeSCN^{2+}(aq)$ were observed. Using the proportionality constant from part A, the concentrations of all reactants and products could be found at equilibrium. Thus, the equilibrium constant could be found by calculating the ratio of products to reactants.

The KC value differed between each sample in the experiment. However, the KC should be constant or consistent because this constant is defined as the relation between all concentrations of involved compounds at chemical equilibrium.

The assumption made in part A could result in a potential source of error because it is not guaranteed that the concentration of $FeSCN^{2+}$ is exactly equal to the concentration of $SCN^-(aq)$. Thus, the concentration of $FeSCN^{2+}$ would be inaccurate, leading to an inaccurate proportionality constant and Kc value.

Also, variation in Kc could have resulted due to variation in room temperature because room temperature was not monitored throughout the experiment.

In addition, the precision of the spectrophotometer (number of significant figures) could be a potential source of error.

Conclusion

The average equilibrium constant, KC for the reaction $Fe^{3+}(aq) + SCN^-(aq) \rightleftharpoons FeSCN^{2+}(aq)$ was found to be 141.

SIGNATURE	DATE	WITNESS/TA	DATE