Restoring balance lab

Business, Accounting

Leo Tran IB Chemistry SL II R5 Ms. Crane January 4, 2012 Restoring Balance LAB Pre-Lab Questions 1. The solubility of iodine increases because the position of equilibrium has shifted towards the triiodide side of the reaction. Addition of the reactants causes an increase in the product which is directly related to the solubility of iodine in water in this case. 2. Ammonium chloride will be more soluble in hot water as in an endothermic reaction, increasing the temperature (which is the same as adding heat - one of the reactants) will cause the position of equilibrium to shift towards the products to compensate for the change.

More products are a result of increased solubility of Ammonium Chloride with water when temperature is increased. Post Lab Questions 1. CoCl42- ions are present in this solution as they are blue colored and the color of the Cobalt Chloride solution was blue when we recorded the color and appearance of the solution. 2. Co(H2O)62+ ion was favored by the addition of water as it is pink colored and when we added water to the cobalt chloride solution, it became pink. This was because the amount of Co(H2O)62+ ions went up(more pink) to compensate or even out the change.

Adding more products resulted in the position of the equilibrium to shift towards the reactant side making it favor the Co(H2O)62+ ions. 3. (a) CoCl42- ion is favored by the addition of hydrochloric acid and calcium chloride. (b) Cl- ion (c) When thestress(Chlorine from hydrochloric acid and calcium chloride) is added on the reactant side (more reactants), the pink color reduces and blue color increases. In other words, CoCl42- is favored to compensate for the change or minimize the stress. 4. A. Adding a species

which appears on the right side of an equation will shift the equilibrium to the left side of the equation.

B. Adding a species which appears on the left side of an equation will shift the equilibrium to the right side of the equation. 5. Since acetone attracts water molecules (decrease water molecules from the reaction) the reaction tries to create more water. Making more of the product, it naturally makes more of all the products which creates CoCl42- ions (blue in color), resulting in a blue color of the system of chemicals. 6. (a) Ag+ + Cl- --> AgCl (b) The concentration of Cl- ions decreased as chlorine ions from the reactant side reacted with silver