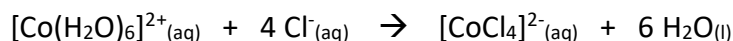


Report Sheet for Experiment #7:
"Chemical Equilibrium and LeChâtelier's Principle"

Table of the Colors of Compounds used in this experiment

Compound	Color	Compound	Color	Compound
$\text{CoCl}_2 \cdot 6 \text{H}_2\text{O}$	red	$[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$	light blue	$[\text{Cu}(\text{NH}_3)_4(\text{H}_2\text{O})_2]^{2+}$
$[\text{Co}(\text{H}_2\text{O})_6]^{2+}$	red	$\text{Cu}(\text{OH})_2$	blue ppt	color of above compound a very dark blue
$[\text{CoCl}_4]^{2+}$	blue	$[\text{CuBr}_4]^{2-}$	brown	

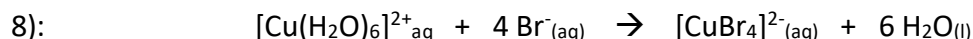
Part 2: Reaction #1



Color Direction Explain

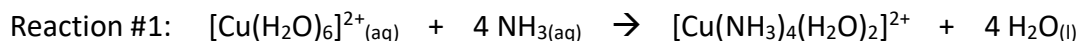
- 7(a): After adding 12 M HCl: _____
- 7(b): After adding AgNO_3 _____
- 7(c): After heating _____
- 7(d): After cooling _____

Part 3: Reaction #3



Volume	Color	Volume	Color
1 st – mL		6 th – mL	
2 nd – mL		7 th – mL	
3 rd – mL		8 th – mL	
4 th – mL		9 th – mL	
5 th – mL		10 th – mL	

Explain what is happening: Consider the octahedral shape of the $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}_{\text{aq}}$ and what is happening to the bromide ions when water is being added. Remember copper is the central metal ion of both the tetrahedral shape of the $[\text{CuBr}_4]^{2-}$ complex ion and the $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}_{\text{aq}}$.



9): $\text{CuBr}_2 + 6 \text{M NH}_3$ Color _____ Direction _____ Why _____

10): Add HNO_3 Color _____ Direction _____ Why _____