

Data Tables

Cation Analysis Data Table

Step	Procedure	Known Solution		Unknown Solution	
		Results	Conclusion	Results	Conclusion
1					
2					
3					
4					
5					
6					

Anion Analysis Data Table

		Known Solution		Unknown Solution	
Step	Procedure	Results	Conclusion	Results	Conclusion
1					
2					
3					
4					

Post-Lab Questions

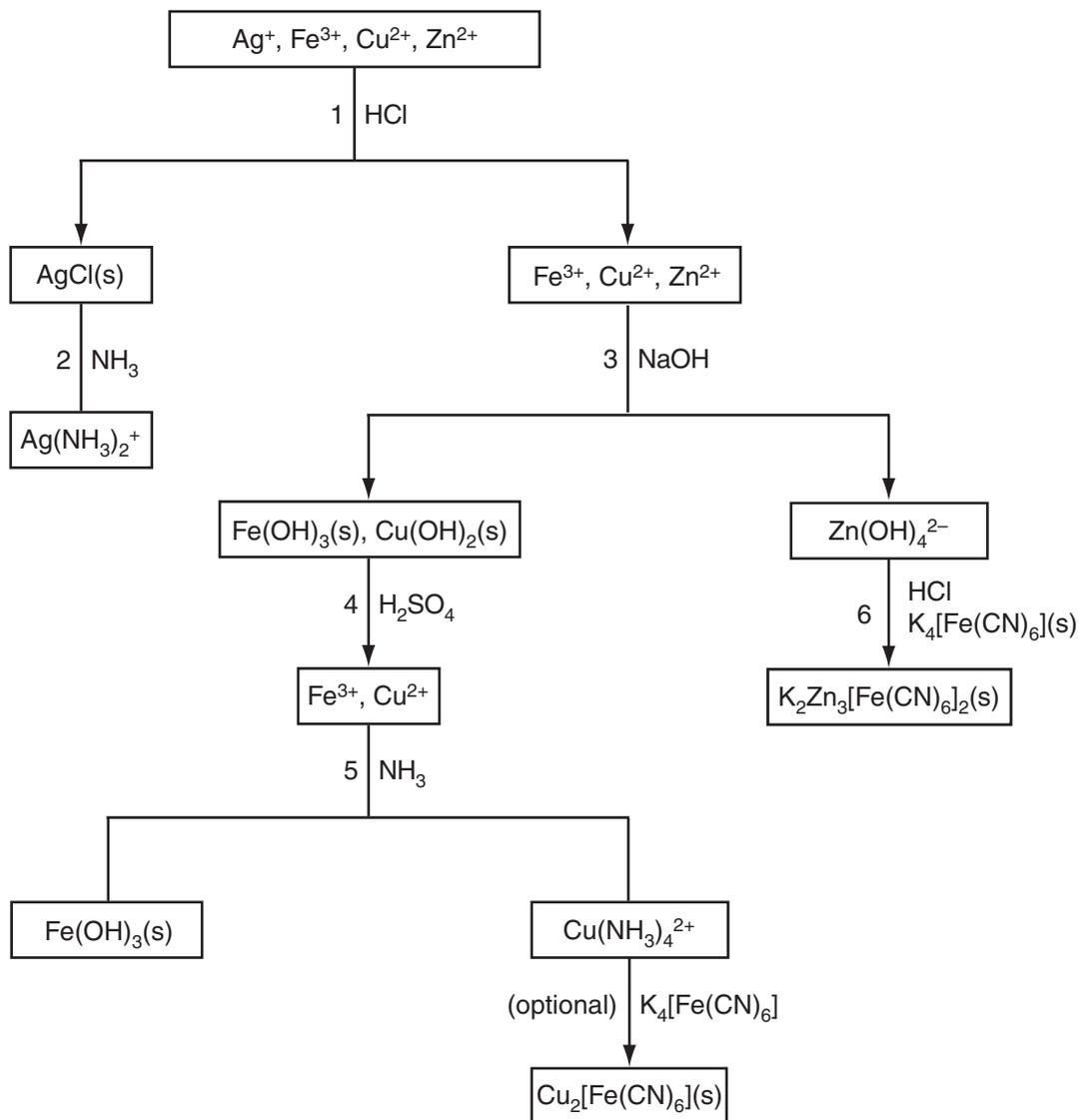
1. What is the precipitating reagent for silver (Ag^+)? Would a solution of NaCl work as well? Why or why not?

2. In the analysis scheme, Ag^+ is precipitated as AgCl , the precipitate is dissolved, and then AgCl is precipitated again in the confirmatory step. Explain the chemistry of each of these steps by showing a balanced equation for each.

3. When Fe^{3+} and Cu^{2+} react with NH_3 solution they form two different types of products. One is a precipitate and one is a complex ion in solution. Write equations for these two reactions.
4. The confirmatory test for chloride ion with silver ion is the same chemical reaction used to confirm silver in the cation analysis scheme. Explain what the reaction is and how the initial precipitate is dissolved and reprecipitated. Use equations in your explanation.
5. Write separate oxidation and reduction half-reactions for the procedure used in the test for nitrate ions.
6. In the nitrate test, why must care be taken to keep the moist litmus from coming in contact with the cotton or the solution?
7. In step 4, Ba^{2+} is added to the solution containing all six of the anions and precipitates BaSO_4 , but not BaCO_3 . However, in step 3, the precipitation of BaCO_3 is the confirmatory test for carbonate ion. Why doesn't BaCO_3 precipitate in step 4 but does in step 3?

Qualitative Analysis of Cations

Flow Chart



Qualitative Analysis of Anions

Flow Chart

