Exp. 10: Inorganic Synthesis

1. If a chemist made a new compound, what would he/she do next in terms of identification of the compound?

2. What subleties are important in the synthesis of coordination compounds?

3. What major safety precaution is covered for the inorganic synthesis lab?

4. What type of compound will you have the opportunity to synthesize in this experiment?

5. Name and briefly explain the techniques that are used in inorganic synthesis.

6. Describe the test for phenol.

7. If ethanol is used to dissolve a compound and water is used to precipitate it, which solvent (ethanol or water) should be used to wash it after vacuum filtration?

8. CuSO₄ · 5H₂O is the starting material to prepare [Cu(NH₃)₄]SO₄ · H₂O
   List two reasons for why you could observe a greater mass of the product than of starting material.

9. a. Why should Ni(NH₃)₆Cl be synthesized under the large fume hood?
   b. Why should all heatings be done with a hot plate rather than with a bunsen burner?

10. If ethanol is used to dissolve a compound and water is used to precipitate it, which solvent (ethanol or water) should be used to wash it after vacuum filtration?