

Different Colored Complexes

Purpose

To demonstrate that different metal ions exhibit different colors in a coordination complex.

Materials

0.1 M solutions of Cu^{2+} , Co^{2+} , Mn^{2+} , Fe^{2+} , Ti^{2+} , Ni^{2+} , Zn^{2+}

Lecture glasses

Procedure

1. Add 100 mL of each of the solutions to the lecture glasses and discuss the relative colors.

Notice that Mn^{2+} and Zn^{2+} appear relatively colorless. Why?

Additional Information

1. It may also be worthwhile to have solutions of Fe^{3+} and Cu^+ to demonstrate the different charges on the same metal give rise to different colored complexes.

Disposal

Solutions can be reused.