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Obtaining an Absorbance Spectrum

Solution Color

The solution made was Cu(NO3)2 where the cation was Cu2+. You will notice that the solid was blue, and the solution it made in water, was a blue color. Many times when you look at data in the CRC Handbook, it gives you the color of the SOLID form of the compound.

There are many things that can change a soluiton color. Many of them are based on the placement within the periodic table, and how it is set up.

Another aspect that can effect the color of a solution is the charge of the cation. Take a look at the video below.

[http://www.youtube.com/watch?v=L35Sr7laK3M&feature=player_embedded]

Notice that the Vanadium solutions are all different colors, but they are all the same cation. The difference is that the cation has a DIFFERENT charge, which changes the electron configuration, and how light interacts with the solutions. This will be very important for future experiments involving redox reactions, as you are changing the charge of the cations. More on that later!

When you're in lab, look at the solutions that you make. Some questions you can ask yourself as you're making them are:

- Why do some solutions have a color, while other solutions are colorless?
- Do cations in some areas of the periodic table display colors while others do not?
- What are special about these areas that could cause changes in light interaction?
- Are there exceptions within the areas?

- If so, why? What's different?
- Why were some solutions made in water, while others were made in base or acid? What are they trying to get us to see?