

## Chem Tech Assignment: Annotated Bibliography

The purpose of an annotated bibliography is to summarize the contributions of each of your references to your project. The references will eventually become part of your final report. The summary paragraph should A) identify the lead author and institution, B) state thesis of the article, C) explain how this work illuminates your project.

An example annotated bibliography

Grant, A. J. *Chem. Educ.* **1984**, *61*, 446.

This brief article, written by a high school science teacher from Brockton, MA, describes a qualitative experiment to demonstrate Le Chatelier's principle using the aqua and chloride complexes of cobalt(II). It appears to be one of the earliest references to such experiments using cobalt.

Miessler, G.; Tarr, D. *Inorganic Chemistry*, 3rd ed.; Prentice Hall: Upper Saddle River, 2004; pp 360, 368.

This frequently used college-level Inorganic Chemistry textbook, written by Miessler and Tarr from St. Olaf College, provides the classic spectrochemical series of ligands and shows the placement of water and the chloride ion relative to the magnitude of the field strength of the ligands in the series. It shows that water is a stronger field ligand and would therefore generate a higher splitting energy in the d-orbitals and cause the color of the complex to shift from blue to pink as the complex transitions from the chloride to the aqua version because the absorption band of the d-electrons has blue-shifted.

Orphardt, C. J. *Chem. Educ.* **1980**, *57*, 453.

This brief article, written by a chemistry professor from Elmhurst College in Illinois, describes a chemical demonstration involving the aqua and chloride complexes of cobalt(II). It is the earliest reference to a demonstration of this colorful equilibrium.