

## Some notes on reading the literature

In the undergraduate inorganic courses (Chem 222, 362 and 462) it is not expected that you perform literature searches. You will be directed towards the appropriate literature. Unless told otherwise in the manual or in assignments, Chem 222 references are intended as optional supplemental reading. In Chem 362 and 462 they are intended to be essential reading.

Most references are journal articles but some will be taken from books. Journal articles can be described as:

primary literature reporting experimental results for the first time;  
secondary literature which reports applications of previously known experimental results or review articles intended to place some context around a larger body of primary information.

For the purposes of course work in Chem 362 and 462, the references are included to provide literature values of physical or spectroscopic data. Be sure to summarize this information **before you begin** the experiment, so that you know where to expect your data and indeed in some cases, where to look for it. Not all data appears in the usual windows of spectroscopic observation.

The best place to start reading is the abstract - not surprisingly. If it has been written well, it will tell you what is covered in the paper and will give you a quick highlight of the results. It may be all that you need to read, and it will certainly help you categorize your reading.

Some papers are included to give the synthetic details needed to support your work. These are usually collected within their own experimental section of the paper but relevant comments can often be found in the discussion section too.

In some cases, the content of the introduction and discussion is valuable information for you to build your own context around the experiment and you will find this helpful when writing your own report. Making good notes when you read this will eliminate the need to re-read everything prior to composing your report. The review articles are usually fairly large and yet only a small section may apply to your focus. Selective reading is strongly advised.

References written in languages other than English are only given to provide you with numbers or pictures that you can easily interpret. Translation is not expected.

The intricate details of X-ray crystallography are rarely necessary to study in detail. Look at the picture and redraw the structure adding relevant bond lengths or angles to either the diagram or a short table. For the most part, we are concerned with the inorganic aspects of the structure (ie the symmetry and the angles and bond lengths around the metal rather than within an organic ring system that may be attached to that metal). This is, of course, a sweeping generalization, but try to focus on the point of the structure which confirms the connectivity and steric relationships of the metal centres.

When citing your literature sources, it is usual to follow the ACS style that the teaching lab manuals have also adopted. As you write articles for different publishers, you will find each requires a very specific style which must be followed. For course work, the ACS style is a good foundation to practice. The key components are the authors' names, the journal name, the year, volume and page numbers. It is not customary (in Chemistry) to include the title of the article but this may change as more search engines use titles as a significant variable. Web sources can also be cited provided that they are universally accessible to all readers. Using the doi designation is also acceptable.