Finding and Managing Scientific Information
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Research Guide: http://lib.guides.umd.edu/chemistryresources
Click on the tab “Course Materials” to find a specific course.

White Memorial Chemistry Library: http://www.lib.umd.edu/chemistry

UMD Libraries Web page: http://www.lib.umd.edu

Finding scientific literature
- Google Scholar
- PubMed
- SciFinder (create an account using your @umd.edu email address)
- Web of Science

Finding information about properties of chemical compounds
- ChemSpider
- PubChem
- CRC Handbook of Chemistry and Physics
- Knovel
- Merck index
- Reaxys
- SciFinder
Difference between Research articles and Review articles:

Research articles, called primary sources, provide direct or firsthand evidence about an experiment, event, object, person, or work of art and are. They have a Materials & Methods section (it could be called just “Methods” or “Experimental”) that describes how the experiments were performed. Review articles are secondary sources, as they describe, discuss, interpret, comment upon, analyze, evaluate, summarize, and process primary sources. They usually DO NOT have an experimental section.

Additional information about finding and manage scientific information:


Scientific ethics

What constitutes scientific misconduct?

- Prior publication: Presented at a conference or published elsewhere
- Plagiarism: Can take different forms—completely or partially copying text without acknowledging the primary source, borrowing ideas and fragments of text without quotation, and (very often) self-plagiarism
- Omitting citations: Not disclosing that there was another similar work already published.
- Submitting to multiple journals at the same time
- Data or image fabrication, falsification, or manipulation: Making up, changing, or omitting data (e.g. manipulating gels)
- Authorship ethics: The author should have made a significant contribution
- Conflict of interest (e.g., funded by a company to perform the research and not disclosing this fact)

Retraction Watch monitors articles that have been withdrawn from scientific journals because of unethical behavior of authors.

For more information about scientific ethics, see this book chapter:

Bibliographic Management Programs:

EndNote Online / Mendeley / Zotero

Using EndNote Online (Formerly, EndNote Web)

Create an account for EndNote Online: www.myendnoteweb.com
Collect references by searching online databases or importing your existing collection: Search an online database, create a reference manually, import references

Organize and group references in any way that works for you. Then share your groups with colleagues:
Create a new group, share a group, find duplicate references

Use the Word plugin to format bibliographies and cite references while you write: Cite While You Write™ Plug-In, create a formatted bibliography, format a paper

Importing into EndNote references downloaded from a database
Once you select SciFinder as a Favorite, it will show up as an import option

Import to a new or an existing group

Enter a New Group name and click 'OK'

Cholesterol

2 references were imported into "Cholesterol" group.
Inserting Citations in a Word document: Cite While You Write (CWYW)

Install EndNote Word plug-in

Drag the "Capture Reference Bookmarklet" to the bookmarks toolbar in your browser to export references to EndNote.

In your EndNote account, click on "Downloads" to install the Capture Reference bookmarklet, the Word plug-in (Cite While You Write), and the Toolbar for Firefox and IE.

Type a keyword here.

Select one or more citations and click on the "Insert" button.

Point the cursor to where you want to insert a citation and click on "Insert Citation".

Cite While You Write™

Use the EndNote plug-in to insert references, and format citations and bibliographies automatically while you write your papers in Word. This plug-in also allows you to save online references to your library in Internet Explorer for Windows.

U.S. Patent 8,082,241

See Installation Instructions and System Requirements.

Download Windows with Internet Explorer plug-in
Download Windows MSI for mass program installation
Download Macintosh

Firefox Extension

Use the EndNote toolbar in Firefox to save online references directly into your library.

See Installation Instructions and System Requirements.

Download Windows/Macintosh

ToolBar

EndNote Find & Insert My References

Find Citation: 

Statins are a group of drugs that inhibit cholesterol
Creating a bibliography with EndNote Online

Select a group with references from your EndNote Library

Select a bibliographic style (for example, ACS styles)

Once you have selected a style, it will show up in this pulldown menu.

Select a bibliographic style (e.g., one of the ACS styles and click on "Copy to Favorites")

The selected style will be included in your Favorites list.
Searching SciFinder

SciFinder is published by the Chemical Abstracts Service (CAS) and gives you access to current high-quality scientific information in chemistry and related sciences. Content at a Glance: searching MEDLINE and Chemical Abstracts (CAPLUS) individually or at the same time.

You must first create an account using your @umd.edu email address to use the web version of SciFinder.

- Choose “Explore References” to search for literature and select the “concept” option for retrieving the references.
- Since SciFinder executes searches simultaneously in the Chemical Abstracts database (CAPLUS) and MEDLINE, there will be some duplicate references in the retrieved set (there is some overlap in the journal coverage by the two databases). Before proceeding further with the search, remove these duplicates (select "Remove duplicates" from the Tools menu).

SciFinder is a platform that provides access to the following databases:

- CAPLUS (the Chemical Abstracts database, which has patents, books, dissertations, in addition to journal articles; it also has the largest database for property information of chemical compounds); and
- MEDLINE (known also as PubMed) (covers the biomedical literature)
- CAS REGISTRY (Choose “Explore Substances” to search for property information)
- CAS REACT (Choose “Explore Reactions” to search for reactions)
- MARPAT
- CHEMLIST
- CHEMCATS

For more details on performing literature searches in SciFinder, see this article:


SciFinder training videos
Export references from SciFinder and save them on your computer (use the Tagged format); then import them in EndNote as shown on pp. 3-4.

Import into EndNote the references exported from SciFinder and downloaded on a computer.

Finding properties of chemical compounds in SciFinder

Properties of chemical compounds can be searched by chemical name, molecular formula, CAS registry Number, property, or chemical structure.
Knovel's collection includes over 2,000 leading reference works and databases from over 70 leading technical publishers and professional societies. Content collection includes material properties, process and design information, best practices, equations and formulations for specific industries and engineering disciplines such as Chemical and Biomolecular Engineering and Materials Science and Engineering.
Finding properties of chemical compounds in Reaxys

Reaxys is a web-based platform based on three chemical information databases. It is an extensive repository of experimentally validated data, including structures, reactions and physical properties. Reaxys allows searching for substances by chemical name or by structure, as well as for single and multi-step reactions. Searches can also be performed for citations, which are indexed from the primary organic, inorganic and organometallic chemistry journal literature going back to 1772, as well as from the patent literature.

Click on “New Reaxys”

The Merck Index

The Merck Index is a major reference work for scientists and professionals looking for authoritative information on chemicals, drugs and biologicals. The Merck index Online is an online platform featuring text and structure search functionality and a user-friendly interface.