

**Instructional Resources** < <http://www.library.ucla.edu/sel/instruct> >

## **Searching the Chemical Literature for Information on Organic Compounds**

### **Sources of Information on Organic Compounds**

*Most print sources are on Reserve, shelved in Ready Reference (RR) or Reference (Ref) sections in the SEL/Chemistry Collection*

- 1) **Aldrich Catalog/Handbook of Fine Chemicals** <<http://www.sigmaaldrich.com>>  
Company catalog on thousands of compounds with some key information such as physical properties, safety precautions, uses, references to spectra.
- 2) **The Merck Index** <<http://uclibs.org/PID/61961>>  
Information on mostly biologically active compounds.
- 3) **Combined Chemical Dictionary (CCD)**  
Available from **CHEMnetBASE** <<http://www.chemnetbase.com>>

**Search Note:** Select the Combined Chemical Dictionary (CCD) or one of its databases from "Online Products"; on the "Searching" screen, after typing a chemical name, click Submit Search on upper left hand side

Also available: **CRC Handbook of Chemistry and Physics**  
**CRC Handbook of Data on Organic Compounds**

- 4) **Beilstein's Handbuch der Organischen Chemie**  
Use to find a synthesis or preparation for an organic compound. Ideal for compounds isolated or synthesized **before 1960**. HOWEVER, not trivial to use.  
MDL/CrossFire client available for downloading <<http://software.chem.ucla.edu/crossfire>>
- 5) **Chemical Abstracts Service (CAS)**  
Largest service abstracting the chemical literature. Most comprehensive coverage.  
Available in print form in the SEL/Chemistry Collection

**SciFinder® Scholar** is the software client used to search **Chemical Abstracts**.  
Searchable database covers **back to 1907**.  
Search **SciFinder Scholar** from computers in the Science Learning Center.

SciFinder Scholar client available for downloading <<http://software.chem.ucla.edu/scifind>>  
Remote access to SciFinder Scholar available from UCLA's Virtual Private Network (VPN) server <<http://www.bol.ucla.edu/services/vpn>> (requires a VPN client).

**SciFinder Scholar** searches can be based on topic, author, chemical name, chemical structure, molecular formula, CAS Registry Numbers and more.

### **Getting started with SciFinder Scholar**

<<http://www.cas.org/SCIFINDER/SCHOLAR/resources.html>>

-- **SciFinder Scholar Tutorial**

<<http://www.cas.org/SCIFINDER/SCHOLAR/interact/index.html>>

**Please logoff after using SciFinder Scholar because ports are limited for UC users.**

Information on **CAS (Chemical Abstracts Service) Registry numbers (or CAS#)** – over 82 million (26 million substances, 56 million biosequences) <<http://www.cas.org/EO/regsys.html>>

**Alternative Structure Drawing Strategy:** Use a known CAS# to "draw" a structure

1. **Explore** a chemical name with a **Substance Identifier** search.
2. Click on the **microscope icon**.
3. Highlight a **Registry Number (CAS#)** in a detailed reference.
4. Select Copy from the Edit menu.
5. **Explore by Chemical Structure**.
6. Select Paste from the Edit menu.

The structure representing that CAS Registry Number is inserted into the drawing window. This structure may be modified, saved, or searched.

6) **Organic syntheses**, includes collective volumes and individual annual volumes

*Electronic version:* <<http://www.orgsyn.org>>

*Print version:* Annual volumes deposited in SRLF (Southern Regional Library Facility) when superseded by collective volumes with revised and updated procedures

**Search Note:** Org. Syn. can be either *Organic Synthesis* or *Organic Syntheses*; confirm title needed by checking volume and year

<b>Organic Syntheses</b>	<b>Corresponds to annual volumes</b>	<b>Covering years</b>
Collective Volume 1	Volumes 1-9	1921-1929
Collective Volume 2	Volumes 10-19	1930-1939
Collective Volume 3	Volumes 20-29	1940-1949
Collective Volume 4	Volumes 30-39	1950-1959
Collective Volume 5	Volumes 40-49	1960-1969
Collective Volume 6	Volumes 50-59	1970-1979
Collective Volume 7	Volumes 60-64	1980-1986
Collective Volume 8	Volumes 65-69	1987-1991
Collective Volume 9	Volumes 70-74	1992-1997
Collective Volume 10	Volumes 75-79	1998-2002

+ Cumulative Index to Collective Volumes 1-8 (1921-1990)

7) **Additional reference sources**

- **Houben-Weyl**
- **Science of Synthesis**
- **Reagents for Organic Synthesis**
- **Comprehensive Organic Transformations**
- **Survey of Organic Synthesis**
- **Organic Functional Group Preparations**
- **Compendium of Organic Synthetic Methods**
- **Vocabulary of Organic Chemistry**

**Locating journals and finding journal names from abbreviations**

- Chemical Abstracts Service Source Index (CASSI) (SEL/Chem QD 1 A43 1907-2004)
- The next best thing to searching CASSI: <<http://www.cas.org/Support/DDS/ddsearch.html>>

**Search Note:** Search by keywords including journal abbreviation, ISSN or ISBN, and CODEN; omit periods (punctuation) from journal abbreviations

## Citing Chemistry Information Sources

- *ACS style guide, a manual for authors and editors*. 2<sup>nd</sup> ed. Washington, DC. American Chemical Society, 1997. (SEL/Chem QD 8.5 A25 1997 Reserve)  
Best resource for all aspects of writing chemistry documents.

Preferred journal article citation formats:

Chemistry: see *Journal of the American Chemical Society* at  
<<http://pubs.acs.org/journals/jacsat/index.html>>

Biochemistry: see *Biochemistry* at  
<<http://pubs.acs.org/journals/bichaw/index.html>>

### Example: Journal Reference

Wolkenberg, S. E.; and Su, A. I. "Combinatorial Synthesis and Discovery of an Antibiotic Compound" *J. Chem. Educ.* **2001**, 78 (6), 784-785.

- author's last name and first name or initials, e.g. Wolkenberg, S. E. ...
- title of the journal article, e.g. Combinatorial Synthesis ... in quotation marks
- title of the journal in which the article appeared, usually abbreviated, e.g. *J. Chem. Educ.* (full name – Journal of Chemical Education) in *ITALICS*.
- date of that volume, including the year and sometimes the month, e.g. **2001** in **BOLD**.
- volume, and issue, of the journal in which the article appeared, e.g. 78 (6) in *ITALICS*.
- pages on which the article appears, e.g. 784-785.

## Writing Scientific Papers

Day, Robert. *How to write & publish a scientific paper*. 5<sup>th</sup> ed. Phoenix, Arizona, Oryx Press, 1998. (online access via ORION2)

Dodd, Janet S. "Writing a Scientific Paper", chapter one of the *ACS Style Guide*  
<[http://www.oup-usa.org/sc/0841234620/0841234620\\_1.html](http://www.oup-usa.org/sc/0841234620/0841234620_1.html)>

The complete book is the best resource for all aspects of writing chemistry documents.

## Further reading

- "Appendix A: The Literature of organic chemistry" in *March's Advanced Organic Chemistry* by Michael Smith, 5th ed., New York, Wiley, 2001, p.1605-1642.  
(SEL/Chem QD 251.2 M37 2001 Reserve)

## Safety Information Sources

- The Aldrich-Sigma Library of chemical safety data  
(SEL/Chem T55.3.H3 S54 1988 Ready Reference)
- *Bretherick's Handbook of reactive chemical hazards*. 6th ed. Oxford, Boston, Butterworths-Heinemann, 1999.  
(SEL/Chem T 55.3 H3 B755 1999 Ready Reference)
- *CRC Handbook of laboratory safety*. 4th ed. Boca Raton, Florida, CRC Press, 1995.  
(SEL/Chem QD 51 C73 1995 Ready Reference)
- *Prudent practices in the laboratory: Handling and disposal of chemicals*. Washington, D.C., National Academy Press, 1995.  
(SEL/Chem T 55.3 H3 P78 1995 Ready Reference)
- *Sax's Dangerous properties of industrial materials*. 11th ed. New York, Wiley, 2004.  
(SEL/Chem T 55.3 H3 L5 2004 Ready Reference)  
<<http://uclibs.org/PID/96484>>
- Material Safety Data Sheets (UCOP) <<http://www1.ucop.edu/oehsp/msds.html>>