

Chemistry 254: Organic Chemistry II

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Key Chemistry Reference Sources

CRC Handbook of Data on Organic Compounds (HODOC). 2nd ed. Boca Raton, FL: CRC Pr., 1989-1991.
11 vols. with supp.
Ref QD 257.7 H36 1989

A reference source for physical and spectral data on the 26,000 most common organic compounds.

The main part of this work is an alphabetical listing of compounds, each with its assigned reference number. Entries include synonyms, CAS Registry number, molecular weight, molecular formula, melting and boiling points, density, crystalline form, color, specific rotation and solvents, complete spectral data, etc. All of the data for each compound appear in one location under the HODOC number for that compound.

- Volume I to VI: chemical compounds from A-Z.
- Volume VII to IX: indexes by synonym, molecular formula, molecular weight, melting point, boiling point, CAS registry number, etc.
- Volume X to XI : 1990 and 1991 updates.

Dictionary of Organic Compounds. 6th ed. NY: Chapman and Hall, 1996. 9 vols.
Ref QD 246 D5 1996

Gives the formulas, physical and chemical properties, and literature references on over 150,000 carbon compounds.

Six volumes cover chemical compounds from A-Zym (A-0-00001--Z-0-00015).

Three volumes for indexes:

- Name Index includes all DOC Names and alternative names
- Molecular Formula Index
- CAS (Chemical Abstracts Service) registry Number

The Organic Chemist's Desk Reference, a supplement to *DOC*, includes a guide to the use of this work, lists of key reference and indexing tools in the field and other basic information on research in organic chemistry.

Key Chemistry Reference Sources (cont'd.)

SciFinder Scholar. Columbus, OH: Chemical Abstract Service.

- **Chemical Abstracts (CAPLUS)**, 1907-
THE index for the chemical literature—22 million+ citations. Indexes and abstracts (summarizes)
 - Articles from 9000+ journals
 - patents from 26 countries
 - conference proceedings
 - reviews
 - technical reports
 - books
 - dissertations

One can browse tables of contents for selected journals, view cited references (1999-), and identify citing references.

- **Registry**, 1957-
Database of chemical structures, names, synonyms, some calculated and experimental properties. Searchable by CAS registry number. 28 million+ substances. To enter, Explore Chemical Substance or Reaction.
- **CASREACT**, 1907-
Database of single and multistep organic reactions. To enter, Explore Chemical Substance or Reaction.
- **CHEMLIST**, current
Regulatory information on chemicals. Not directly searchable. Look up substance in Registry and look for Regulated Chemicals Listing link.
- **CHEMCATS**, current
Database of chemicals commercially available from major suppliers. Not directly searchable. Look up substance in Registry and look for Commercial Sources link.
- **MEDLINE**, 1966-
Indexes and abstracts the literature of medicine, including materials on pharmaceuticals and organic materials relevant to medicine. From the National Library of Medicine.

Online tutorials are available here: <http://www.cas.org/SCIFINDER/SCHOLAR/resources.html>

See also *Information Retrieval: SciFinder & SciFinder Scholar*, 2003, Ref Z 699.5 .S3 R53 2003

Availability of SciFinder Scholar On Campus

SciFinder Scholar is currently available on computers in Science Center 325 (open Mon-Thurs 7-11pm; Sun 3-11pm) and in the Woolley Electronic Classroom in the Library.

General Open Hours for Woolley Classroom:*

Monday-Wednesday	8:30 am - 2:00 am
Thursday	8:30 am - 1:00 am
Friday	8:30 am - 10:00 pm
Saturday	10:00 am - 10:00 pm
Sunday	10:00 am - 2:00 am

*Woolley is closed to general use when library sessions are scheduled. Check schedule outside door.

You may experience difficulty logging in to Scholar from time to time: our subscription arrangement is for Wheaton to share 2 “seats” amongst 3 schools.

Use the exit button please, so that the next person can get in!

Other Chemistry Reference Sources

Guides to Research

How to Find Chemical Information: A Guide for Practicing Chemists, Educators, and Students. 3rd ed. Chichester, England: John Wiley and Sons, 1998.
Ref QD 8.5 M34 1998

Discusses current awareness; patents; US government information; reference sources, including in-depth treatment of Chemical Abstracts. Also: environment/safety; processes; physical property information; chemical business sources; analytical chemistry.

Science and Technology Research: Writing Strategies for Students. Lanham, MD: Scarecrow Pr., 2002.
Stacks Z 710 .N47 2002

Covers topic selection; online searching; location of books, articles, and government information; evaluation of sources.

Guides to Writing

The ACS Style Guide: A Manual for Authors and Editors. 2nd ed. Washington, DC: American Chemical Society, 1997.
Ref QD8.5 .A25 1997

Official Style Guide for Chemistry.

How to Write and Publish a Scientific Paper. R.A. Day. 5th ed. Phoenix, AZ: Oryx Pr., 1998.
Ref T11 .D33 1998

Concise pointers about scientific writing and the scholarly publication process, along with a welcome dose of humor.

The Art of Scientific Writing: From Student Reports to Professional Publications in Chemistry and Related Fields. H.F. Ebel, C. Bliefert and W.E. Russey. Weinheim, Germany: VCH, 1987.
Ref QD9.15 .E23 1987

Addresses the lab notebook, the college-level report, the thesis, and grant-writing, among many other genres. Special topics include chemical nomenclature, citing the literature, equations and formulas, and figures and tables.

Encyclopedias

McGraw-Hill Encyclopedia of Science and Technology. 8th ed. NY: McGraw-Hill, 1997. 20 vols.
Ref Q 121 M3 1997

An encyclopedia devoted to science; coverage of topics is broad rather than deep. Articles contain brief bibliographies.

Encyclopedia of Inorganic Chemistry. Chichester, England: John Wiley and Sons, 1994. 8 vols.
Ref QD 148 E53 1994

Highlights chemistry of the elements, bioinorganic, organometallic and solid state chemistry. With bibliographic references.

Other Chemistry Reference Sources, cont'd

Handbooks

CRC Handbook of Chemistry and Physics. 82nd ed. Boca Raton, FL: CRC Pr., 2001.
Ref QD 65 H3 2001-2002

Annual lab guide giving tabular data on the physical properties of compounds—organic, inorganic, and organometallic. Properties listed include crystal structure, color, boiling point, melting point and solubilities. Contains numerous tables of data useful for laboratory techniques: gravimetric factors, solubility products, preparation of laboratory reagents.

Lange's Handbook of Chemistry. 14th ed. NY: McGraw-Hill, 1992.
Ref QD 65 L36 1992

Standard reference for chemistry consisting primarily of tables on physical and thermodynamic properties, atomic and molecular structure, spectroscopy, electrolytes, physiochemical relationships, polymers, rubbers, fats, oils and waxes, and a final section entitled "Practical Laboratory Information."

The Merck Index: An Encyclopedia of Chemicals, Drugs and Biologicals. 12th ed. Rahway, NJ: Merck and Co., 1996.
Ref RS 51 M4 1996 (also a copy on Permanent Reserve)

Emphasizing compounds that reflect the interdependence of chemistry, biology, and medicine, information is presented on over 30,000 substances with references. A good source for toxicity and hazard information.

Sax's Dangerous Properties of Industrial Materials. 8th ed. NY: Van Nostrand Reinhold, 1992. 3 vols.
Ref T 55.3 H3 S3 1992

Listing of nearly 25,000 hazardous industrial and laboratory materials. Entries give synonyms, molecular formula and weight, and toxicity information, and include bibliographic references.

Indexes – General & Scientific

>> Access any of these databases through the *Wallace Library Electronic Resources* page:

<http://www.wheatoncollege.edu/library/resources/electronic>

[Choose the Alphabetical or Subject list under Online Research Databases if there is no link at the top level.]

CSA Biological Sciences (Cambridge Scientific Abstracts), 1982-

Indexes and abstracts articles from biological and biomedical journals; covers biotechnology, zoology, ecology, agriculture, veterinary science.

TIPS:

- Perform “Thesaurus Search” to browse standardized subject headings
- Use “Check Your Library” link to see if Wheaton subscribes to the journal, and, if not found, click ILL link to send an interlibrary loan request directly from the database.
- Relevant web sites are included with your results (look for “Web Resources Related to Your Search”).

InfoTrac Expanded Academic, 1980-

>> choose *Expanded Academic* after first click to *InfoTrac*

Indexes articles from a variety of magazines, journals and news sources in the humanities, social sciences and sciences. Many full-text articles are included. See also InfoTrac’s *Health Reference Center* for articles and reference information.

TIPS:

- Use “Subject Guide” link on left to *find appropriate subject headings* under which relevant articles might be categorized.
- To get only *scholarly publications*, check “Limit...to refereed publications” box before searching.
- If the article sounds perfect for your research but isn’t included in full-text, don’t forget that you can *check for the journal title (not the article title) in ELIZA!*

LexisNexis Academic, dates of coverage vary (as early as the 1980s)

Primarily a news database, LexisNexis Academic includes (mostly) the full-text of articles drawn from sources all over the world (but lacks any graphics that may have accompanied original articles).

TIPS:

- Use *Quick News Search* to find news within last 2 years.
- Use *Guided News Search* to search earlier than the last 2 years, in a specific category of news (ex: World, Legal), or for greater precision (being able to search for your term(s) in the headline, etc.).
- Click on *Medical* link on left to search Medical News and Medical and Health Journals.

MEDLINE, 1966-

Indexes the literature of medicine, including materials on pharmaceuticals and organic materials relevant to medicine.

TIPS:

- Keep Map Term to Subject Heading box checked while doing keyword search—this brings you to thesaurus (a browsable index of standardized subject headings)
- Use the “Library Catalog Holdings” link to see if Wheaton subscribes to the journal.
- To order items via interlibrary loan, mark your records and click on “Order” in the Citation Manager.
- MEDLINE is also available through *CSA* (see above), LexisNexis (in the *Medical* section) or in a free public version (*PubMed*) at: <http://www.ncbi.nlm.nih.gov/PubMed>

Wilson General Science Index, 1984-

Indexes articles from journals in physical, life and health sciences.

TIPS:

- Use “Check Library Catalog” links to check whether Wallace Library subscribes to the journal.
- To order items via interlibrary loan, mark your records and click on “Order” in the Citation Manager.