



Chemistry: A Guide to Selected Resources

The following is a guide to selected resources in the field of chemistry available in Owen Library or through electronic access. Please consult a Reference Librarian for advice about the best sources and research strategy for your specific topic.

Guides to the Literature

Chemistry Resources in the Electronic Age

Reference QD9.3 .B39 2003

This resource contains reviews of hundreds of the most reliable chemistry-related Web sites. Each review discusses the most appropriate grade level of the site, analyzes its accuracy and usefulness, and provides helpful hints for getting the most out of the resource. Sites are organized by topic.

How to Find Chemical Information

QD8.5 .M34 1987

Available online through PITT*Cat+*

This is a helpful guide about the use of chemical information resources.

Indexes, Abstracts, & Databases

* **Locate under “Find Articles” tab and then click “Databases A-Z.”**

Beilstein Crossfire*

The Beilstein database is based on *Beilsteins Handbuch der Organischen Chemie* and contains references back to 1771. The database covers the structures, properties, and reactions of organic compounds and some organometallics. It contains more than 10 million compounds, 10 million reactions, and 2 million citations.

This database is available on Library computers only.

Gmelin*

This database covers the structures, properties, and reactions of inorganic and organometallic substances, elements, and alloys. It contains more than 2.2 million compounds, 1.6 million reactions, and 1.1 million citations. More than 800 chemical and physical property data fields are used. The database is structure searchable. ***This database is available on Library computers only.***

Knovel: Engineering and Scientific Online References*

Database that provides the full-text of some of leading chemistry and chemical engineering reference handbooks, including *Lange's Handbook of Chemistry* and *Yaws Chemical Properties Handbook*. It includes tabular and graphical data (i.e., facts, data, equations, illustrations, charts, and formulas).

SciFinder Scholar*

This is the core bibliographic database to literature in all fields of chemistry. It indexes journal and patent literature. ***This database is available on Library computers only.***

Web of Science: Science Citation Index*

The *Web of Science* database provides access to three citation indexes. Among these is the Institute of Scientific Information's *Science Citation Index*. It may searched electronically back to 1992. The most unique and valuable feature of a citation index, is that it allows you to search for additional publications that have cited a source you have already found on your topic. A guide for learning to search the database is available at:

<http://www.library.pitt.edu/john/Web%20of%20Science%2008.pdf>.

Biography

Nobel Laureates in Chemistry, 1901-1992

Reference QD21 .N63 1993

Dictionaries and Encyclopedias

Dictionary of Biochemistry and Molecular Biology

Reference QP512 .094 2006
Available online through PITTCat+

Dictionary of Organic Compounds

A 7-volume dictionary providing basic physical and chemical properties and bibliographic references for organic compounds.

Reference QD246 .D5 1982

Electrochemistry Dictionary

<http://electrochem.cwru.edu/ed/dict.htm>

This resource provides hundreds of simple and brief definitions of words and phrases used often in electrochemistry. It can be browsed alphabetically.

Encyclopedia of Inorganic Chemistry

Reference QD148 .E53 1994

Encyclopedia of Physical Science and Technology

Reference Q123 .E497 2002
Available online through PITTCat+

This 18-volume encyclopedia contains signed articles by scholars in the fields. It provides comprehensive coverage to many fields including chemistry.

Kirk-Othmer Encyclopedia of Chemical Technology

Reference TP9.K54 2004
Available online through PITTCat+

A multi-volume encyclopedia providing comprehensive coverage on topics in applied chemistry and chemical engineering. Its emphasis is the application to industrially important concepts, processes, and uses. Also provides references for additional reading on topics.

Merck Index: An Encyclopedia of Chemicals, Drugs, and Biologicals

Reference RS51 .M4 2001
Available online through PITTCat+

It focuses on molecules with biological importance. Compounds included range from organic chemicals, laboratory reagents, drugs, and pharmaceuticals. Entries provide molecular formulas and weights, chemical names, CAS registry numbers, physical and toxicity data, uses, and bibliographic references.

Ullmann's Encyclopedia of Industrial Chemistry

Reference TP9 .U57 2003
This multi-volume encyclopedia provides comprehensive coverage on the field of industrial chemistry.

Van Nostrand Reinhold Encyclopedia of Chemistry

Reference QD4 .V36 2005

Handbooks

CRC Handbook of Chemistry and Physics

This is a core reference tool for the field. It provides information on physical constants, units and conversion factors, and structure and data of organic and inorganic compounds (i.e., melting point, boiling point, and vapor pressure). It includes many useful tables.

Reference QD 65 .H3

Lange's Handbook of Chemistry

This classic reference covers the entire field of chemistry with facts, figures, values, tables, and formulas.

Reference QD65 .L36 2005
Available online through PITTCat

Riegel's Handbook of Industrial Chemistry

Reference TP 145 .R53 2003

Spectral Resources

The Aldrich Library of NMR Spectra

Reference QD96 .N8P68 1983

CRC Atlas of Spectral Data and Physical Constants for Organic Compounds Reference QD291 .C18

Handbook of Ultraviolet and Visible Absorption Spectra of Organic Compounds

Reference QD291 .H5

Integrated Spectral Database System for Organic Compounds (SDBS)

http://riodb01.ibase.aist.go.jp/sdbs/cgi-bin/cre_index.cgi?lang=eng

SDBS is an integrated spectral database system for organic compounds, including six different types of spectra under a directory of compounds. It provides a very helpful "How to Use SDBS" within the site. It is maintained by National Institute of Advanced Industrial Science and Technology in Japan.

NIST Chemistry WebBook

<http://webbook.nist.gov/chemistry/>

This free searchable database from the National Institute of Standards and Technology (NIST) provides thermochemical, thermophysical, and ion energetics data compiled by the NIST under the Standard Reference Data Program.

WebSpectra

<http://www.chem.ucla.edu/~webspectra/>

Site provides students with a collection of problems in NMR and IR spectroscopy. The problems are intended to help students better understand spectroscopy. This site is supported by the Cambridge Isotope Laboratories and the UCLA Department of Chemistry and Biochemistry.

Other Useful Internet Resources

Analytical Sciences Digital Library

<http://asdlib.org>

ASDL is an electronic library that collects, catalogs, and links web-based information and discovery material pertinent to innovations in curricular developments and supporting resources about chemical measurements and instrumentation. It is searchable and can be browsed by class materials, techniques, etc.

ChemCollective

<http://www.chemcollective.org/>

This resource is intended for college and high school teachers "interested in using, assessing, and creating engaging online activities for chemistry education." The site is maintained by faculty and staff at Carnegie Mellon University and sponsored by the National Science Foundation (NSF) and the National Science Digital Library (NSDL).

ChemBiofinder.com

<http://chembiofinder.cambridgesoft.com/>

This site provides information, including physical property data and 2-dimensional chemical structures, for thousands of common chemical compounds. Site is searchable by chemical name, CAS number, molecular formula or molecular weight. Some sections of site require paid subscription.

U.S. National Library of Medicine: Chemical Information

<http://sis.nlm.nih.gov/chemical.html>

This resource provides hundreds of thousands of chemicals, plus "synonyms, structures, regulatory list information, and links to other databases. It allows searching by chemical name, registry number, molecular formula, structure, physical and toxicological properties plus locator and classification data." From the U.S. National Library of Medicine (NLM) and National Institutes of Health (NIH).

Web Elements

<http://www.webelements.com/webelements/scholar/index.html>

This resource provides useful information on the periodic table, including many graphics illustrating structures and periodic properties of elements. Plans are to add information on compounds in the future.