

1.6: Sources of Information

Sources for Physical Property Data

Web of Science Core Collection Web of Science Core Collection enables searching of top-cited peer-reviewed content across the sciences, social sciences, and humanities with "cited reference" search capabilities. "It is a curated collection of over 20,000 peer-reviewed, high-quality scholarly journals published worldwide (including Open Access journals) in over 250 science, social sciences, and humanities disciplines. Conference proceedings and book data are also available." There is also access to Journal Citation

Reports which provide impact metrics like the Journal Impact Factor (JIF) and Eigenfactor Scoring. Web of Science also has article, author and institutional citation indices. Includes EndNote Basic online citation management tool. [Coverage: 1900-present]

SciFindern (SciFinder-n) [Registration Required]

You must (register for a SciFinder account) before you can use the database (login to VPN to access registration page from off-campus). SciFinder is the most comprehensive bibliographic database for scholarly research in the field of chemistry. It contains over 52 million citations and indexes over 50,000 journals, covering all aspects of chemistry, including chemical aspects of: biology and life sciences, engineering and materials science, food science, geology, medicine, physics, and polymer science. SciFinder also allows searching of chemical substances, chemical reactions, and includes some property data and spectra. It is the online version of Chemical Abstracts.[Coverage: 1907-present, with selected pre-1907 material]

REAXYS

REAXYS provides property, structure and reaction data for millions of chemical substances (organic, inorganic and organometallic) and chemical reactions. Up to hundreds of fields of chemical and physical property information are available. Reaxys combines the Beilstein Handbook of Organic Chemistry, the Gmelin Handbook of Inorganic and Organometallic Chemistry and the Elsevier Patent Chemistry Database. It is searchable by text keywords, numerical physical and chemical properties, and by chemical structures and substructures.

Coverage:

1772 – present Chemical substances

1976 – present Chemical patents

1980 – present Organic chemistry journal articles

1995 – present Inorganic chemistry journal articles

CHEMnetBASE

Collection of searchable major chemical reference works, including: CRC Handbook of Chemistry & Physics, Dictionary of Commonly Cited Compounds, Dictionary of Drugs, Dictionary of Food Compounds, Dictionary of Inorganic and Organometallic Compounds, Dictionary of Marine Natural Products, Dictionary of Natural Products, Dictionary of Organic Compounds, Polymers: A Property Database, Properties of Organic Compounds, and Combined Chemical Dictionary.

Merck Index: an encyclopedia of chemicals, drugs, and biologicals

The Merck Index contains over 11,000 entries (referred to as monographs) mostly for single substances and related compounds (isomers, salts, etc.). Some families of natural products and biological substances are included as well. Data provided include: chemical, generic, and brand names; CAS (Chemical Abstracts Service) registry numbers; physical data and literature references; structures and stereochemistry; toxicity; and information on therapeutic and non-medicinal uses. The Merck Index Online also includes sections on: organic name reactions, and additional tables. The Merck Index can be searched by structure with installation of a free ChemDraw plug-in available on the structure search page.

CRC Handbook of Chemistry and Physics

2022-2023 (103rd ed.) The CRC handbook that started it all - over 100 years old and the most important data handbook for major areas of Chemistry and Physics.

Print copy at Shields Reference QD 65 C4. Reference

Review Literature for Inorganic Chemistry

General Inorganic/Coordination Chemistry

1. Cotton, F. A.; Wilkinson, G. *Advanced Inorganic Chemistry*; 5th ed.; John Wiley & Sons: Chichester, 1986.
2. Gerloch, M.; Constable, E. C. *Transition Metal Chemistry*; VCH: New York, 1994.
3. Huheey, J. E.; Keiter, E. A.; Keiter, R. L. *Inorganic Chemistry*; 4th ed.; Harper Collins: NY, 1993.
4. Kettle, S. F. A. *Symmetry and Structure. Readable Group Theory for Chemists*; 2nd ed.; Wiley: New York, 1995.

Kinetics and Mechanisms

1. Atwood, J. D. *Inorganic and Organometallic Reaction Mechanisms*; Brooks/Cole: Monterey, CA, 1985.
2. Brateman, P. S. (Ed.) *Reactions of Coordinated Ligands*; Plenum Press: New York, 1986.
3. Cooke, D. O. *Inorganic Reaction Mechanisms*; Royal Society of Chemistry, 1979.
4. Espenson, J. H. *Chemical Kinetics and Reaction Mechanisms*; McGraw-Hill: New York, 1981.
5. Wilkins, R. G. *Kinetics and Mechanism of Reactions of Transition Metal Complexes*; VCH: Weinheim, 1991.
6. Capellos, C.; Bielski, B. H. *Kinetic Systems: Mathematical Description of Chemical Kinetics in Solution*; Krieger Publ. Co.: Huntington, New York, 1980.

Organometallic Chemistry

1. Collman, J. P., Hegedus, L. S., Norton, J. R., Finke, R. G. *Principles and Applications of Organotransition Metal Chemistry*, University Science Books: Mill Valley, CA, 1987.
2. Elschenbroich, C.; Salzer, A. *Organometallics: a concise introduction*; 2nd ed.; VCH: Weinheim, 1992.
3. Crabtree, R. H. *The Organometallic Chemistry of the Transition Metals*; 2nd ed.; Wiley-Interscience: New York.
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3. Chaloner, P. A. *Handbook of Coordination Catalysis in Organic Chemistry*; Butterworth: London, 1986.

Main Group and Solid State Chemistry

1. Wells, A. F., *Structural Inorganic Chemistry*, Oxford University Press, 1984.
2. King, R. B., *Inorganic Chemistry of the Main Group Elements*, VCH, Weinheim, 1994.
3. Müller, U., *Inorganic Structural Chemistry*, Wiley, New York, 1993.
4. A. R. West, *Solid State Chemistry and Its Applications*, Wiley, New York, 1984.

Bioinorganic Chemistry

1. Cowan, J. A. *Inorganic Biochemistry*, Wiley-VCH, New York, 1997.
2. Lippard, S. J.; Berg, J. M. *Principles of Bioinorganic Chemistry*, University Science Books, Mill Valley 1994.

Experimental Techniques

1. Shriver, D. F.; Drezdson, M. A. *The Manipulation of Air-Sensitive Compounds*; 2nd ed.; Wiley-Interscience: New York, 1986.
2. Herrmann, W. A. (Ed.) *Synthetic Methods of Organometallic and Inorganic Chemistry*; Thieme: Stuttgart, 1996/1997; Vol. 1-8.
3. Wayda, A. L.; Darensbourg, M. Y. (Eds.) *Experimental Organometallic Chemistry*; American Chemical Society: Washington, D. C., 1987.
4. Sanders, J. K. M.; Hunter, B. K. *Modern NMR Spectroscopy*; 2nd ed.; Oxford University Press: Oxford, 1993.
5. J. Derek Woollins (Ed.), *Inorganic Experiments*, VCH, 1994.
6. Szafran, Z.; Pike, R. M.; Singh, M. M. *Microscale Inorganic Laboratory*, John Wiley: 1991.

Reviews of inorganic chemistry: Oxford Chemistry Primers Series

1. Jenkins, P. R. *Organometallic Reagents in Synthesis*
2. Henderson, R. *The Mechanisms of Reactions at Transition Metal Sites*
3. Bochmann, M. *Organometallics 1: Complexes with Transition Metal-Carbon σ Bonds*
4. Bochmann, M. *Organometallics 2: Complexes with Transition Metal-Carbon π Bonds*
5. Norman, N. C. *Periodicity and the p-block elements*
6. Cox, B. G. *Modern Liquid Phase Kinetics*
7. Weller, M. T. *Inorganic Materials Chemistry*
8. Wayne, R. P. *Chemical Instrumentation*

9. Fenton, D. E. *Biocoordination Chemistry*
 10. Winter, M. J. *d-Block Chemistry*
 11. Mingos, D. M. P. *Essentials of inorganic Chemistry 1*
 12. Hore, P. J. *Nuclear Magnetic Resonance*
 13. Housecroft, C. E. *Metal-Metal Bonded Carbonyl Dimers and Clusters*
 14. Brisdon, A. K. *Inorganic Spectroscopy Methods*
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