CHAPTER 14

References

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This chapter presents style conventions for citing references within a manuscript and for listing complete reference citations. Many of the references in the examples were created to illustrate a style point under discussion; they may not be real references.

Citing References in Text

In ACS publications, you may cite references in text in three ways:

1. By superscript numbers, which appear outside the punctuation if the citation applies to a whole sentence or clause.

   Oscillation in the reaction of benzaldehyde with oxygen was reported previously.3

2. By italic numbers in parentheses on the line of text and inside the punctuation.

   The mineralization of TCE by a pure culture of a methane-oxidizing organism has been reported (6).

3. By author name and year of publication in parentheses inside the punctuation (known as author-date).

   The primary structure of this enzyme has also been determined (Finnegan et al., 2004).

In ACS books, all three of these systems are used, depending on the subject matter and series. Table 14-1 lists the referencing systems used by the ACS journals currently in print.
Table 14-1. ACS Periodicals, with Referencing Style, CASSI Abbreviation, and 2006 Volume Number

<table>
<thead>
<tr>
<th>Name as Registered in the U.S. Patent and Trademark Office</th>
<th>Referencing Style&lt;sup&gt;a&lt;/sup&gt;</th>
<th>CASSI Abbreviation</th>
<th>2006 Vol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts of Chemical Research</td>
<td>1</td>
<td>Acc. Chem. Res.</td>
<td>39</td>
</tr>
<tr>
<td>ACS Chemical Biology</td>
<td>2</td>
<td>ACS Chem. Biol.</td>
<td>1</td>
</tr>
<tr>
<td>Analytical Chemistry</td>
<td>1</td>
<td>Anal. Chem.</td>
<td>78</td>
</tr>
<tr>
<td>review issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biochemistry</td>
<td>2</td>
<td>Biochemistry</td>
<td>45</td>
</tr>
<tr>
<td>Bioconjugate Chemistry</td>
<td>2</td>
<td>Bioconjugate Chem.</td>
<td>17</td>
</tr>
<tr>
<td>Biomacromolecules</td>
<td>1</td>
<td>Biomacromolecules</td>
<td>7</td>
</tr>
<tr>
<td>Biotechnology Progress</td>
<td>2</td>
<td>Biotechnol. Prog.</td>
<td>22</td>
</tr>
<tr>
<td>Chemical &amp; Engineering News</td>
<td></td>
<td>Chem. Eng. News</td>
<td>84</td>
</tr>
<tr>
<td>Chemical Research in Toxicology</td>
<td>2</td>
<td>Chem. Res. Toxicol.</td>
<td>19</td>
</tr>
<tr>
<td>Chemical Reviews</td>
<td>1</td>
<td>Chem. Rev.</td>
<td>106</td>
</tr>
<tr>
<td>Chemistry of Materials</td>
<td>1</td>
<td>Chem. Mater.</td>
<td>18</td>
</tr>
<tr>
<td>Crystal Growth &amp; Design</td>
<td>1</td>
<td>Cryst. Growth Des.</td>
<td>6</td>
</tr>
<tr>
<td>Energy &amp; Fuels</td>
<td>1</td>
<td>Energy Fuels</td>
<td>20</td>
</tr>
<tr>
<td>Environmental Science &amp; Technology</td>
<td>2</td>
<td>Environ. Sci. Technol.</td>
<td>40</td>
</tr>
<tr>
<td>Industrial &amp; Engineering Chemistry Research</td>
<td>1</td>
<td>Ind. Eng. Chem. Res.</td>
<td>45</td>
</tr>
<tr>
<td>Inorganic Chemistry</td>
<td>1</td>
<td>Inorg. Chem.</td>
<td>45</td>
</tr>
<tr>
<td>Journal of Agricultural and Food Chemistry</td>
<td>2</td>
<td>J. Agric. Food Chem.</td>
<td>54</td>
</tr>
<tr>
<td>Journal of the American Chemical Society</td>
<td>1</td>
<td>J. Am. Chem. Soc.</td>
<td>128</td>
</tr>
<tr>
<td>Journal of Chemical and Engineering Data</td>
<td>1</td>
<td>J. Chem. Eng. Data</td>
<td>51</td>
</tr>
<tr>
<td>Journal of Chemical Information and Modeling</td>
<td>1</td>
<td>J. Chem. Inf. Model.</td>
<td>46</td>
</tr>
<tr>
<td>Journal of Combinatorial Chemistry</td>
<td>1</td>
<td>J. Comb. Chem.</td>
<td>8</td>
</tr>
<tr>
<td>Journal of Medicinal Chemistry</td>
<td>1</td>
<td>J. Med. Chem.</td>
<td>49</td>
</tr>
<tr>
<td>Journal of Natural Products</td>
<td>1</td>
<td>J. Nat. Prod.</td>
<td>69</td>
</tr>
<tr>
<td>Journal of Proteome Research</td>
<td>1</td>
<td>J. Proteome Res.</td>
<td>5</td>
</tr>
<tr>
<td>Langmuir</td>
<td>1</td>
<td>Langmuir</td>
<td>22</td>
</tr>
<tr>
<td>Macromolecules</td>
<td>1</td>
<td>Macromolecules</td>
<td>39</td>
</tr>
<tr>
<td>Molecular Pharmaceutics</td>
<td>1</td>
<td>Mol. Pharm.</td>
<td>3</td>
</tr>
<tr>
<td>Nano Letters</td>
<td>1</td>
<td>Nano Lett.</td>
<td>6</td>
</tr>
<tr>
<td>Organic Letters</td>
<td>1</td>
<td>Org. Lett.</td>
<td>8</td>
</tr>
<tr>
<td>Organic Process Research &amp; Development</td>
<td>1</td>
<td>Org. Process Res. Dev.</td>
<td>10</td>
</tr>
<tr>
<td>Organometallics</td>
<td>1</td>
<td>Organometallics</td>
<td>25</td>
</tr>
</tbody>
</table>

<sup>a</sup>Reference style 1 uses superscript numbers, and 2 uses italic numbers in parentheses on the line of the text.
In all three systems, the author’s name may be made part of the sentence. In such cases, in the author–date system, place only the year in parentheses.

The syntheses described by Fraser\(^8\) take advantage of carbohydrate topology.

Jensen (3) reported oscillation in the reaction of benzaldehyde with oxygen.

According to Harris (2003), drug release is controlled by varying the hydrolytic stability of the ester bond.

With numerical reference citations, start with 1 and number consecutively throughout the paper, including references in text and those in tables, figures, and other nontext components. If a reference is repeated, do not give it a new number; use the original reference number.

Whenever authors are named, if a reference has two authors, give both names joined by the word “and”. If a reference has more than two authors, give only the first name listed, followed by “et al.” Do not use a comma before et al.; always use a period after al.

Allison and Perez\(^{12}\)

Johnson et al. (12)

(O’Brien and Alenno, 2005)

(Bachrach et al., 2004)

To cite more than one reference by the same principal author and various coauthors in one of the numerical citation systems, use the principal author’s name followed by “and co-workers” or “and colleagues”.

Pauling and co-workers\(^{10,11}\)

Cram and colleagues (27–29)

When citing more than one reference at one place by number in one of the numerical systems, list the numbers in ascending order and separate them by commas (\textit{without} spaces as superscripts, \textit{with} spaces on line), or if they are part of a consecutive series, use an en dash to indicate a range of three or more.

in the literature\(^{2,5,8}\)

were reported\(^{3–5,10}\)

in the literature (2, 5, 8)

were reported (3–5, 10)

When citing more than one reference at one place by the author–date system, list them alphabetically according to the first author’s name, followed by a comma and the year. Use a semicolon to separate individual references.

(Axelrod, 2003; Cobbs and Stolman, 2005; Gerson et al., 2001)
When citing more than one reference by the same author at one place by the author–date system, do not repeat the name. List the name followed by the year of each of the references in ascending order; separate the years by commas. If an author has more than one reference in the same year, add lowercase letters to the years to differentiate them. Add letters to all of the years, for example, 2005a, 2005b, etc., not 2005, 2005a, etc. (The references in the list will need to be listed the same way, for example, 2005a, 2005b.

(Knauth, 2005a, 2005b)
(Fordham, 2004; Fordham and Rizzo, 2004)

Cite the reference in a logical place in the sentence.

recent investigations (cite)
other developments (cite)
was reported (cite)
as described previously (cite)
previous results (cite)
were demonstrated (cite)
a molecular mechanics study (cite)
Marshall and Levitt’s approach (cite)
the procedure of Lucas et al. (cite)

Style for Reference Lists

Authors are responsible for the accuracy and completeness of all references.
Authors should check all parts of each reference listing against the original document.

A reference must include certain minimum data:

- Periodical references must include the author names, abbreviated journal title, year of publication, volume number (if any), and initial page of cited article (the complete span is better).
- Book references must include the author or editor names, book title, publisher, city of publication, and year of publication.
- For material other than books and journals, sufficient information must be provided so that the source can be identified and located.

In lists, references always end with a period.
Table 14-2 provides sample references for common reference types.
Periodicals

RECOMMENDED FORMATS

Author 1; Author 2; Author 3; etc. Title of Article. Journal Abbreviation Year, Volume, Inclusive Pagination.

Author 1; Author 2; Author 3; etc. Journal Abbreviation Year, Volume, Inclusive Pagination.

The journal *Biochemistry* is an exception. Consult this journal’s instructions to authors for the correct format.

**Author Name Field**

Include all author names in a reference citation. With multiple authors, separate the names from one another by semicolons. Always end the author field with a period (exception: *Biochemistry*). List the names in inverted form: surname first, then first initial, middle initial, and qualifiers (Jr., II). Some publications list the first 10 authors followed by a semicolon and et al.; check the guidelines.

- Cotton, F. A.
- Basconi, J.; Lin, P. B.
- Chandler, J. P., III; Levine, S. M.
- Schafer, F. W., Jr.
- Fishman, W., II.
- Farhataziz. (a single name is uncommon, but does occur; no period in *Biochemistry*)
- Inderjit; Fontana, M. J. (the first author has a single name)

**Article Title Field**

Article titles are not essential in reference citations, but they are considered desirable to highlight the contents of a paper and facilitate location in reference libraries. Some ACS publications include the article title in journal references, and some do not; check the publication itself. Article titles are set in roman type without quotation marks and end with a period (or a question mark if that is part of the title). In ACS journals, capitalization follows that of the original publication; in other publications, the main words are capitalized.


**Journal Abbreviation Field**

The journal name is an essential component of a periodical reference citation. Abbreviate the name according to the *Chemical Abstracts Service Source Index*.
<table>
<thead>
<tr>
<th>Reference Type</th>
<th>See Pages</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print Sources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Online Periodicals</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 14-2. Common Types of References with Examples—Continued

<table>
<thead>
<tr>
<th>Reference Type</th>
<th>See Pages</th>
<th>Example</th>
</tr>
</thead>
</table>

Other Online Sources

| Electronic mail messages                            | 322       | Solla, L. R. Cornell University, Ithaca, NY. Personal communication, 2005. |
(CASSI), and italicize it. One-word journal names are not abbreviated (e.g., Biochemistry, Macromolecules, Nature, Science). No punctuation is added to end this field; thus, a period will be there with an abbreviation but not with a spelled-out word.

CASSI and its quarterly supplements provide an extensive list of recommended journal abbreviations. Appendix 14-1 lists CASSI abbreviations for more than 1000 of the most commonly cited journals. ACS publication names, their abbreviations, and their volume numbers for 2006 are given in Table 14-1. Note that, in some cases, the word “the” is part of the title.

Sometimes journal names change. Authors should use the abbreviation of the journal title that was in use at the time the article was published. CASSI lists the journal titles and the range of years during which the title was being used.

Information Found in CASSI

Entries are arranged in CASSI alphabetically according to the abbreviated form of the title. Abbreviations are based on the standards of the International Organization for Standardization (ISO). Recommended abbreviations are indicated in boldface type. See Appendix 14-2 for a sample CASSI entry with a description of each element in an entry.

Using CASSI Abbreviations

The boldface components of the publication title form the abbreviated title. Use a period after each abbreviation, and maintain the punctuation shown in CASSI.

Journal of Polymer Science, Part A: Polymer Science

Maintain the word spacing shown in CASSI, except for D.C., N.Y., U.K., U.S., and U.S.A.

Analyst (Cambridge, U.K.)
Anesth. Analg. (Hagerstown, MD, U.S.)
Science (Washington, DC, U.S.)

Use a terminal period only if the last word of the periodical title is abbreviated.

International Journal of Nanoscience
Int. J. Nanosci. (last word is abbreviated; period is used)

Journal of Controlled Release
J. Controlled Release (last word is not abbreviated; no period is used)
➤ If the periodical abbreviation in CASSI shows a hyphen with spaces on both sides, change the hyphen to an em dash closed up on each side.

**Annual Technical Conference - Society of Plastics Engineers**


➤ If a boldface n precedes the volume number in CASSI, use the abbreviation “No.” before the volume number in italics in the entry.

**British Medical Journal** … n6372 1983


Include all the information shown for volume in italics, especially for references to government publications and reports.


**Exceptions to the Rules of CASSI Abbreviations**

➤ Strict rules for CASSI abbreviations can be modified for periodicals whose titles include multiple parts, sections, and series.

**ABBREVIATION**


**ACCEPTABLE VARIATION** The section title need not be named:


**ACCEPTABLE VARIATION** The section can be indicated by the volume number:


➤ For some periodicals whose CASSI abbreviation includes a place of publication, you need not add the place of publication unless its omission would create ambiguity. If CASSI lists only one journal with a given main title, there is no ambiguity in omitting the place of publication.

**USE**  **NOT NECESSARILY**


In contrast, omission of the place of publication would create ambiguity for different journals having the same main title.

*Transition Met. Chem. (Dordrecht, Neth.)*

*Transition Met. Chem. (N.Y.)*
Year of Publication Field

The year of publication is essential information in a periodical citation. The year is set in boldface type, followed by a comma in boldface type.

Publication Volume Field

The volume number is important information and is recommended for all periodical citations; it is essential for publications having more than one volume per year (such as the *Journal of Chemical Physics*). The volume number is set in italic type and is separated from the pagination information by a comma, which is set in italic type.

➤ For periodicals in which each issue begins with page 1, include issue information (either the number or the date) in the publication volume field. Issue information is set in roman type, enclosed in parentheses, and spaced from the volume number, which it directly follows.

ISSUE NUMBER


DATE OF ISSUE


➤ For publications that have supplements, the following form is recommended.


➤ For journals that have no volume numbers, include issue numbers, especially when the pagination of each issue begins with page 1. Use the following form. Note that the issue number is not italicized.


Pagination Field

Pagination is an essential element of a reference citation. The complete page range is preferable, but initial page numbers are acceptable.

➤ In page spans, use all digits, closed up, with no commas or spaces.

<table>
<thead>
<tr>
<th>Start Page</th>
<th>End Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2–15</td>
<td>1376–1382</td>
</tr>
<tr>
<td>44–49</td>
<td>2022–2134</td>
</tr>
<tr>
<td>103–107</td>
<td>11771–11779</td>
</tr>
</tbody>
</table>
You may also indicate pagination in reference citations by “f” or “ff”, which mean “and following” page or pages, respectively. The f or ff is set in roman type and is spaced from the preceding number:

60 f (indicates page 60 and the page following—pages 60 and 61)
60 ff (indicates page 60 and pages following)
58–60 ff (indicates pages 58 through 60 and pages following—essentially the same as 58 ff except that the three pages enumerated contain the most pertinent information and other relevant information is scattered on the rest of the pages)

The pagination field may also include terms such as “and references therein” and similar expressions (especially in references to review articles). This phrase follows the page numbers and is not separated by a comma.


Some publications use article numbering, rather than page numbering, where each article starts on page 1. Use the article number in the pagination field.


**Use of Punctuation To Indicate Repeating Fields of Information**

The choice of what punctuation to use to indicate repeating fields of information depends on whether the publication will appear strictly in print or on the Web. For publications that will appear in both print and on the Web, use the rules for Web publications.

In references that will appear only in print publications, use a semicolon, a comma, or a period to indicate repeating information.

1. Same authors in multiple publications:


2. Same authors in multiple publications, but with letters to separate the references (the semicolon from the previous example is changed to a period):


3. Same authors of multiple articles in the same journal:


When the year and volume are the same:

When the year is the same but the volumes are different:


In references that will appear only in Web publications, provide complete references so that the references can be properly linked. If two or more references with the same authors are cited, it is not acceptable to combine them into a single reference.

1. Same authors in multiple publications:


2. Same authors in multiple publications, but with letters to separate the references:


3. Same authors of multiple articles in the same journal:


The same principle holds no matter what information is being repeated: provide each reference in its entirety. Do not use the Latin terms ibid. (in the same place) or idem (the same).

References to Chemical Abstracts

Use a semicolon to separate the periodical citation from a reference to its abstract (Chemical Abstracts).


Chemical Abstracts routinely contains more than one abstract per page. The method of distinguishing which abstract was being cited has changed over the years. Three variations are worth noting.

1. The column (two columns per page) in which the abstract occurs followed by a superscript number:

   Chem. Abstr. 1946, 40, 44638. (This is the eighth abstract in column 4463.)

2. The column (two columns per page) in which the abstract occurs followed by a letter, either on the line or superscript (generally italic):
Chem. Abstr. 1953, 47, 1167f. (This is abstract f in column 1167.)
Chem. Abstr. 1947, 41, 571d. (This is abstract d in column 571.)

3. The abstract number itself followed by an online letter (roman), often a computer check character:

Chem. Abstr. 1989, 110, 8215j. (This is abstract number 8215.)

Special Situations

➤ You may treat Beilstein references as periodical references.

Beilstein, 4th ed. 1950, 12, 237.

➤ Cite journals published in a foreign language either by the actual non-English title or by a translated form.

Nippon Ishikai Zasshi or J. Jpn. Med. Assoc.

➤ When citing an article printed in the English translation of a foreign-language journal, include reference to the original article, if possible, and use a semicolon to separate the two citations.


➤ Separate two or more companion publications with a semicolon.


Nonscientific Magazines and Newspapers

RECOMMENDED FORMAT

Author 1; Author 2; Author 3; etc. Title of Article. Title of Periodical, Complete Date, Pagination.

For nonscientific magazines and other periodicals that are not abstracted by Chemical Abstracts Service, give the authors’ names in inverted form ending with a period, the article title in roman type with main words capitalized and ending with a period, the full magazine title in italic type followed by a comma in italic type, the complete date of the issue (see pp 160–161 about dates) ending with a comma, and the pagination.

## Books

Some ACS publications include the chapter title in book references, and some do not; check the publication itself. Also, consult the instructions to authors in *Biochemistry* for exceptions to the format presented here and elsewhere in this chapter.

**RECOMMENDED FORMATS FOR BOOKS WITHOUT EDITORS**

Author 1; Author 2; Author 3; etc. Chapter Title. *Book Title*, Edition Number; Series Information (if any); Publisher: Place of Publication, Year; Volume Number, Pagination.

Author 1; Author 2; Author 3; etc. *Book Title*; Series Information (if any); Publisher: Place of Publication, Year; Volume Number, Pagination.

When a book has authors and no editors, it means either that the entire book was written by one author or that two or more authors collaborated on the entire book.


**RECOMMENDED FORMATS FOR BOOKS WITH EDITORS**

Author 1; Author 2; Author 3; etc. Chapter Title. In *Book Title*, Edition Number; Editor 1, Editor 2, etc., Eds.; Series Information (if any); Publisher: Place of Publication, Year; Volume Number, Pagination.

Author 1; Author 2; Author 3; etc. In *Book Title*, Edition Number; Editor 1, Editor 2, etc., Eds.; Series Information (if any); Publisher: Place of Publication, Year; Volume Number, Pagination.

When a book has editors, it means that different authors wrote various parts of the book independently of each other. The word “In” before the book title indicates that the authors mentioned wrote only a part of the book, not the entire book.


If the book as a whole is being referenced, the author names might not appear.


**Author Name Field**

- Separate the names of multiple authors by semicolons, and always end the author field with a period (except in Biochemistry). List names in inverted form: surname first, then first initial, middle initial, and qualifiers (Jr., II).

- If a book has no primary authors because each chapter was written by a different author, you may place the editor names in the author name field (especially for lists in alphabetical order). Separate editor names by commas, and in this case, the period after the abbreviation Ed. or Eds. terminates the field.


- A book might have no named authors because it was compiled by a committee or organization. These books are discussed under the section “Works Written by an Organization or a Committee”, p 307.

**Chapter Title Field**

Chapter titles are not essential, but they are considered desirable components in reference citations because they highlight the contents of a paper and facilitate its location in reference libraries. Chapter titles are set in roman type and end with a period.


**Book Title Field**

Book titles are essential elements in book reference citations. In general, book titles should not be abbreviated. They are set in italic type and are separated from the next field of the reference by a semicolon, which is set in italic type.

- The edition number (in ordinal form) and the abbreviation “ed.” follow the book title, set off by an italic comma; they are set in roman type. The edition information is separated from the next field of the reference by a semicolon.

  Reagent Chemicals, 10th ed.;

- When both authors and editors are given, use the word “In” (set in roman type) immediately before the title of the book to indicate that the cited authors wrote only part of the book.

**Editor Name Field**

For books with editors, list the names of the editors, after title and edition information, in inverted form as described in the section “Author Name Field”, separated from one another by commas. The names are denoted as editors by including the abbreviation “Eds.” or “Ed.” after the final name. The editor field is set in roman type and ends with a semicolon (unless it is used in the author field location).


In books that have no primary authors, the names of the editors may appear in either the author name field (especially for lists in alphabetical order) or the editor name field. When the editor names appear in the author name field, they are separated by commas and the field ends with a period.


**Publication Information Field**

The name of the publisher, place of publication, and year of publication are essential elements in a book reference.

**Name of Publisher**

Check the title page, front and back, for the publisher’s name and location. Names and addresses of publishers are also listed in *Chemical Abstracts Service Source Index, 1907–2004 Cumulative*, pp 211–39I.

➤ Generally, do not abbreviate publishers’ names.

American Chemical Society, *not* Am. Chem. Soc. *or* ACS


**Exception** You may use well-known acronyms or abbreviations created by the publishers themselves.

AIChE *or* American Institute of Chemical Engineers

ASTM *or* American Society for Testing and Materials

IUPAC *or* International Union of Pure and Applied Chemistry
In some publisher’s names, words such as Co., Inc., Publisher, and Press are not essential.


Expanded names are also not essential.

John Wiley & Sons or John Wiley or Wiley

It is not necessary to repeat the publisher’s name for a book compiled by the organization that published it.


Place of Publication

For the place of publication, give the city and state for U.S. cities or the city and country for all others. The country or state is not needed if the city is considered a major city in the world and could not be confused easily with other cities of the same name (e.g., London, Paris, New York, and Rome). Use the two-letter postal abbreviations (listed in Chapter 10) for states. Spell out names of countries unless they have standard abbreviations, such as U.K. for United Kingdom.

- Birmingham, U.K.
- Boca Raton, FL
- Cambridge, MA
- Cambridge, U.K.
- Chichester, U.K.
- Dordrecht, Netherlands
- Elmsford, NY
- Englewood Cliffs, NJ
- London
- New York
- Princeton, NJ
- Springfield, IL
- Springfield, MA
- Washington, DC

Year of Publication

In book references, the year is set in lightface (not bold) roman type, following the place of publication. Terminate the field with a period or with a semicolon if further information is given.


Volume and Pagination Field

Volume Information

The volume field contains specific information, such as volume number and chapter number. Use the following abbreviations and spelled-out forms with the capitalization, spelling, and punctuation shown:

- Abstract
- Chapter
No. Paper Part Vol. (for specific volumes, Vol. 4; Vols. 1, 2; Vols. 1 and 2; Vols. 3–5) vols. (for a number of volumes, 4 vols.)


If a volume or part number refers to the volume or part of an entire series of books, this information is placed where a series number would normally appear and not in the volume field for the specific book being cited.


If the book or set of books as a whole is the reference, do not include individual volume information.


Pagination Information

If you are citing a chapter, the complete page range is best, but initial page numbers are acceptable. Pagination may also be indicated by “f” or “ff” notation (meaning “and following” page or pages, respectively). The f or ff is set in roman type and is spaced from the preceding number. These points are illustrated under the “Pagination Field” heading for periodicals.

Pagination information is set in roman type and ends with a period, except when miscellaneous information follows it, in which case it should end with a semicolon (see the next section). Use the abbreviations “p” and “pp” to indicate single and multiple pages, respectively.

p 57 pp 30, 52, and 76
p 93 f pp 562–569
pp 48–51 pp 562–9 (acceptable in journals)

If the book as a whole is the reference, page numbers need not be given.
Miscellaneous Information

If you wish to include additional information about a book that is important for the reader to know, you may add it at the end of the reference with or without parentheses, append it to the title in parentheses before the semicolon, or place it between the title and the publisher.

Volatile Compounds in Foods and Beverages; Maarse, H., Ed.; Marcel Dekker: New York, 1991; see also references therein.

Special Situations

Organic Syntheses collective volumes should be treated as books.


<table>
<thead>
<tr>
<th>YEAR</th>
<th>COLLECTIVE VOLUME NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1941</td>
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<td>1943</td>
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<tr>
<td>1998</td>
<td>IX</td>
</tr>
<tr>
<td>2004</td>
<td>X</td>
</tr>
</tbody>
</table>

Organic Syntheses, Cumulative Indices for Collective Volumes I–VIII was published in 1995. Beginning with Volume 82, each volume of Organic Syntheses is planned to be published online on orgsyn.org in installments about every three months, with printed volumes appearing annually.

For references to the Kirk-Othmer Encyclopedia, include the article title followed by a period, similar to the citation of a chapter title.

**Series Publications**

Publications such as book series that are periodical in nature but are not journals may be styled as either books or journals. *CASSI* lists every document abstracted and indexed by the Chemical Abstracts Service; hence, book titles are included and abbreviated. Key words to look for with these types of publications include “Advances”, “Methods”, “Progress”, and “Series”.

**RECOMMENDED FORMAT FOR CITATION AS A BOOK**

Author 1; Author 2; Author 3; etc. In *Title*; Editor 1, Editor 2, Eds.; Series Title and Number; Publisher: Place of Publication, Year; Pagination.

➤ In book format, use the regular citation format for a book reference, but include information pertaining to the series. The series title is spelled out and set in roman type.


➤ If a volume or part number is given for a series of books instead of a series number, cite this information where a series number would normally appear.


➤ As for any book, you may cite specific chapters.


➤ In journal format, the series title is used as a journal title, abbreviated according to *CASSI* and italicized, and the series number is used as a journal volume number.

**RECOMMENDED FORMAT FOR CITATION AS A JOURNAL**

Author 1; Author 2; Author 3; etc. *Abbreviation* Year, Volume, Pagination.


Works Written by an Organization or a Committee

An organization or a committee may be the author of a book or periodical article. Acronyms for very well known organizations may be used. It is not necessary to repeat the publisher’s name for a work compiled by the organization that published it.

**BOOK FORMAT**


**PERIODICAL FORMAT**


Meetings and Conferences

References to work presented at conferences and meetings must be treated on a case-by-case basis. At least three types of citations are possible:

1. Full citations of published abstracts and proceedings. The format resembles that of a book citation.
2. **CASSI** citations of published abstracts and proceedings. The format is that of a periodical citation.
3. References to oral presentations, posters, or demonstrations at technical meetings, possibly accompanied by handouts or brochures. These references contain no publication information.

**Full Citations**

**RECOMMENDED FORMAT**

Author 1; Author 2; Author 3; etc. Title of Presentation. In *Title of the Collected Work*, Proceedings of the Name of the Meeting, Location of Meeting, Date of Meeting; Editor 1, Editor 2, etc., Eds.; Publisher: Place of Publication, Year; Abstract Number, Pagination.

The format resembles that of a book citation. The title field, however, includes additional information on the meeting title, location, and dates. The actual title
of the book (collected work) is set in italic type and is separated from the meeting information by a comma. The information on meeting location is set in roman type, but it is not repeated if it is included in the book title. The entire field ends with a semicolon.


Abstracts are slightly different in that they usually do not have editors. The word “in” is not used before the book title.


When the phrase “Proceedings of” is part of the reference, include the publisher and place of publication. When a society sponsors a meeting, the society is assumed to be the publisher. If the place of the meeting and the place of publication are the same, additional publisher and place information is not required. However, many organizations such as the ACS sponsor meetings in various cities.


**CASSI Citations**

Proceedings and abstracts of meetings and conferences are indexed in CASSI. The reference format follows that for periodicals.


CASSI gives the number of a meeting in ordinal form. Convert this number to an italic cardinal number, and use it as the volume number in the citation, unless CASSI has already indicated another volume number.

Journal format can be used for references to preprint papers.


**Material That Has No Publication Information**

**RECOMMENDED FORMATS**

Author 1; Author 2; Author 3; etc. Title of Presentation (if any). Presented at Conference Title, Place, Date; Paper Number.

List the data concerning the conference (name, place, and date) separated by commas and followed by a semicolon and the paper number (if any). The entire citation is set in roman type.
Dizman, B.; Elasri, M. O.; Mathias, L. J. Presented at the 227th National Meeting of the American Chemical Society, Anaheim, CA, March 28–April 1, 2004; Paper POLY 229.

**Theses**

**RECOMMENDED FORMATS**

Author. Title of Thesis. Level of Thesis, Degree-Granting University, Location of University, Date of Completion.

References to theses should be as specific as practical, including, at a minimum, the degree-granting institution and date.


**Author Name Field**

Cite the name in inverted form: surname first, then first initial, middle initial, and qualifiers (Jr., II). End the field with a period.


**Title Field**

Thesis titles are not essential, but they are informative. They are set in roman type and end with a period.


**Thesis Level Field**

Work done at a master’s level is often called a thesis. Work toward the Ph.D. (doctor of philosophy) may be called a thesis or a dissertation, depending on the policy of the degree-granting institution. The following abbreviations are standard for U.S. degrees. Many variations exist for degrees from institutions of other countries.
A.B., B.A., B.S.
A.M., M.A., M.S., M.B.A.
Ph.D., M.D.


**University Name and Location Field**

The name of the degree-granting university is the minimum requirement for an acceptable citation. You should also include the city and state or city and country. Use the two-letter postal abbreviations for states. Spell out names of countries unless they have standard abbreviations, such as U.K. for United Kingdom.


**Date of Completion Field**

Indicate the date the thesis was completed by year only; month and year; or month, day, and year.


**Patents**

**RECOMMENDED FORMAT**

Patent Owner 1; Patent Owner 2; etc. Title of Patent. Patent Number, Date.

The minimum data required for an acceptable citation are the name(s) of the patent owner(s), the patent number, and the date. Ensure that the patent stage (Patent, Patent Application, etc.) is indicated and that the pattern of the number (e.g., spaces, commas, dashes) follows that of the original patent document. If possible, include the title and the *Chemical Abstracts* reference (preceded by a semicolon) as well.


Government Publications

Publications of the U.S. government and those of state and local governments can be pamphlets, brochures, books, maps, journals, or almost anything else that can be printed. They may have authors or editors, who may be individuals, offices, or committees, or the author may not be identified. They are published by specific agencies, but they are usually (though not always) available through the Government Printing Office rather than the issuing agency. To enable others to find the publication, the American Library Association suggests that you include as much information as possible in the citation. The following are examples of the most commonly cited types of references.

**Publications of Federal Government Agencies**

RECOMMENDED FORMAT

Author 1; Author 2; etc. Chapter Title. *Document Title; Government Publication Number; Publishing Agency: Place of Publication, Year; Pagination.*

The format resembles that of a serial publication in book format. Include as much information as possible.


Author Name Field
Include all author names. With multiple authors, separate the names from one another by semicolons. Always end the author field with a period. List the names in inverted form: surname first, then first initial, middle initial, and qualifiers (Jr., II). Some publications list the first 10 authors followed by a semicolon and “et al.”

Chapter Title Field
Chapter titles are set in roman type and end with a period.

Document Title Field
Treat the formal title of the document as the title of a book. These titles are set in italic type and are separated from the next component of the reference by a semicolon, which is set in italic type.

Government Publication Number Field
The government publication number, also called an agency report number, is important because it is unique to the publication and because some indexing services provide access by these numbers. These numbers (or number–letter combinations) are usually printed somewhere on the cover or title page of the document and are sometimes identified as a “report/accession number”. Treat a report number the same as a series number; that is, it follows the book title, ends with a semicolon, and is set in roman type.

Publishing Agency Field
The publishing agency field may take on added complexity in government publications. Often, the office or agency issuing the report as well as the Government Printing Office must be cited. The order is department or agency, administration or office, and finally U.S. Government Printing Office, all separated by commas and set in roman type. The field ends with a colon.

Place of Publication Field
For the U.S. Government Printing Office, it is always Washington, DC. The field ends with a comma preceding the date of publication.

Year of Publication Field
The year of publication is set in roman type and ends with a semicolon if it is followed by pagination information. It ends with a period if it is the last field.

Pagination Field
The page numbers are set in roman type and end with a period, unless miscellaneous material is appended to the reference.
Alternative Format

Government agency references can also be given with CASSI abbreviations. In that case, the format is the same as for periodicals.


Other Federal Publications

Federal Register

The Federal Register is a periodical and is treated as such in citations.


Code of Federal Regulations


U.S. Code


U.S. Laws

Treat the name of the law as a chapter title (roman, terminated with a period). No publisher name is needed. The number and date of the law are separated by a comma. If additional publication information is given, it is preceded by a semicolon.


State and Local Government Publications

RECOMMENDED FORMAT

Author 1; Author 2; etc. Chapter Title. Document Title; Publication Number or Type; Publishing Agency: Place of Publication, Date; Pagination.

Annual Report 2004: Moving Forward; Santa Barbara County Air Pollution Control District: Santa Barbara, CA, 2005.
Technical Reports and Bulletins

Technical reports and bulletins come in many forms. Examples of some of these have already been presented. Many are in-house publications, and some are government publications. Others are reports of work in progress. The publication itself may include a phrase alluding to its status as a technical report or technical bulletin, but it may also simply be called a report or bulletin. Include whatever information is available, following the format shown for the word “Report”, “Report No.”, etc. Document titles are set in italic type.

RECOMMENDED FORMAT

Author 1; Author 2; etc. Title of Report or Bulletin; Technical Report or Bulletin Number; Publisher: Place of Publication, Date; Pagination.


Data Sets

Data sets are compilations of data, such as spectra or property tables. These data sets are often published serially as loose-leaf services, but the content is not always organized in chapters as in other serial publications. The citation of a serial data set should contain the title of the data set, the publisher, the place of publication, the date of the volume, the data entry number (as opposed to the data value), and the name of the figure or other identifying information. The page number can be included in the citation if page numbers are used in the index of the data set.

References to data retrieved from a stand-alone database should cite the source as a computer program (for example, MDL CrossFire Commander, see p 323 f) or as an online reference book (for example, the Kirk-Othmer Encyclopedia of Chemical Technology, see p 305 f), with the data entry number or other identifying information included at the end of the citation. Data retrieved from an Internet-based database should cite the source as a Web site (see pp 316 ff). If the data retrieved are calculated data, also cite the software used for calculation (for example, ACD/Labs).
RECOMMENDED FORMAT FOR PRINTED DATA SETS

Title; Publisher: Place of Publication, Date; Data Entry Number, Figure Title or other identifying information.


Material Safety Data Sheets

Material Safety Data Sheets (MSDSs) are published by the company that manufactures the material covered on the sheet. Citations should include the title of the data sheet, which is the name of the material; the MSDS number; the manufacturing company; the location of the company; and the date on which the document was released. If the online version was used, the designation “Online” is included in brackets after the MSDS number, and the URL and date accessed are included at the end of the citation.

RECOMMENDED FORMATS

Title; MSDS Number; Manufacturing Company: Location of Company, Date.
Title; MSDS Number [Online]; Manufacturing Company: Location of Company, Date. URL (accessed Month Day, Year).


Unpublished Materials

Material in any stage preceding actual publication falls under this general classification, as do personal communications and work not destined for publication.

RECOMMENDED FORMAT FOR MATERIAL INTENDED FOR PUBLICATION

Author 1; Author 2; etc. Title of Unpublished Work. Journal Abbreviation, phrase indicating stage of publication.

Various phrases indicating the stage of publication are acceptable in these references.

➤ For material accepted for publication, use the phrase “in press”.

➤ For material intended for publication but not yet accepted, use “unpublished work”, “submitted for publication”, or “to be submitted for publication”.

As Gordon G. Hammes says in Chapter 1 of this book,

Occasionally, the attribution of an idea or fact may be to a “private communication” of a colleague or fellow scientist. In such cases, permission must be obtained from the individual in question before the citation is made. Reference to unpublished material should be avoided if possible because it generally will not be available to interested readers.

**RECOMMENDED FORMAT FOR MATERIAL NOT INTENDED FOR PUBLICATION**

Author. Affiliation, City, State. Phrase describing the material, Year.


Messages sent by electronic mail are considered personal communications and are referred to as such.

**Electronic Sources**

Electronic media continue to develop rapidly in content, organization, and presentation of information. The conventions for citing electronic resources are evolving to reflect these changes, but the basic principles of citation remain the same: present enough documentation with enough clarity to establish the identity and authority of the source and direction for locating the reference. The guidelines stress consistency both in presentation of information and in reasons for exceptions.

To date, much of the material available in electronic media corresponds to and/or is modeled after the traditional print-based sources discussed earlier in this chapter and should be cited according to those guidelines as appropriate. However, given the transient nature of electronic sources, it is important to provide additional documentation about the format or online location and the date the source was accessed.

**Internet Sources**

Internet sources include online editions of traditional sources such as periodicals and books available through Web technology; new collective sites of information, including Internet-based databases using Web, file transfer protocol (FTP),
and Telnet technologies; and electronic mailing lists and mail messages that may or may not use Web interfaces. Each source has an electronic address; for sources using the World Wide Web, this address is called the uniform resource locator (URL). As Web interfaces and supporting technologies evolve, direct addresses of items will often change to reflect new structures. Changing addresses can disrupt access to information sources that may still be available but at new locations and in modified formats. This issue can be resolved locally through use of persistent URLs. A persistent URL remains constant, but the actual location of a source is tracked through a local database that can be updated without disrupting the URL.

Information sources can also be tracked globally through coordinated efforts such as the Digital Object Identifier (DOI) system. Information providers register their sources, which are assigned unique and persistent DOIs. Each DOI is similar to a barcode that manages a complex profile of multiple pieces, formats, locations, ownership rights, and interoperability features. The identity of and access to an electronic information source is maintained through its DOI regardless of changes in location, format, or publisher. The use of DOIs is spreading among publishers as an efficient system to manage journal articles and other types of intellectual property on the Web. Further information about the DOI system can be found at http://www.doi.org (accessed April 13, 2005).

CrossRef is an application of the DOI system that links online citations across publishers. The unique identification and persistent location information in the DOI is packaged into an open URL that publishers and libraries can use to link to subscribed full-text content from reference lists. These links appear with citations in the reference lists of online articles and databases from several participating publishers.

For the purposes of citation, reference style conventions continue to use the URL as the most direct route to the location of a source. DOIs are sometimes used by publishers in place of page numbers or article numbers and should be included in citations in this context.

URLs can be long and complicated, and there are conventions for splitting an address between multiple lines; see Chapter 10 (pp 156–157) for guidelines on breaking URLs and e-mail addresses.

**Online Periodicals**

There are several types of periodicals online, including those based on print editions, electronic copies retrieved from databases, articles released online in advance of a full print issue, periodicals published only in electronic format, and article preprints posted in preprint servers. The reference styles for periodicals apply, with additional information concerning online location and accession date assigned as needed. As for print periodicals, article titles are desirable but not included in all ACS publications; check the publication itself.
RECOMMENDED FORMAT FOR ONLINE PERIODICALS
BASED ON PRINT EDITIONS

Author 1; Author 2; Author 3; etc. Title of Article. Journal Abbreviation [Online] Year, Volume, Inclusive pagination or other identifying information. URL (accessed Month Day, Year).

Currently, the majority of the articles retrieved from online publications are based on corresponding print versions. For these articles, the basic periodical reference style is used, but if the article has been viewed only in its electronic form, the designation “Online” is included in brackets after the journal abbreviation.


RECOMMENDED FORMATS FOR ELECTRONIC COPIES OF ARTICLES RETRIEVED FROM A DATABASE PROVIDER

Author 1; Author 2; Author 3; etc. Title of Article. Journal Abbreviation [Online] Year, Volume, Article Number or other identifying information. Database Provider. URL of top page (accessed Month Day, Year).

Author 1; Author 2; Author 3; etc. Title of Article. Title of Periodical [Online], Complete Date, Pagination. Database Provider. URL of top page (accessed Month Day, Year).

Electronic copies of periodicals, nonscientific magazines, or newspapers retrieved from subscription database services often provide only the original text but not the original formatting or the figures. For online articles provided as content in a subscription database, use the reference style for periodicals or nonscientific magazines as appropriate, and include the name of the database provider, the URL of the top page, and the date accessed.


RECOMMENDED FORMAT FOR ARTICLES PUBLISHED ONLINE IN ADVANCE OF PRINT ISSUES

Author 1; Author 2; Author 3; etc. Title of Article. Journal Abbreviation [Online early access]. DOI or other identifying information. Published Online: Month Day, Year. URL (accessed Month Day, Year).

Often, articles are ready for publication in advance of a full issue of a periodical. Several publishers offer these articles online up to weeks in advance of the print issue. They are identical to the corresponding print articles except that page numbers are often not yet available. Publishers market this service under different names; the ACS Publications Division labels them As Soon As Publishable (ASAP). For citation purposes, use the designation “Online early access” in brackets after the journal abbreviation in place of the publisher-specific term.
Also include the DOI or other identifying information, the online publication date, the URL, and the date accessed.


**RECOMMENDED FORMAT FOR PERIODICALS PUBLISHED ONLY IN ELECTRONIC FORMAT**

Author 1; Author 2; Author 3; etc. Title of Article. *Journal Abbreviation* [Online] Year, Volume, Article Number or other identifying information. URL (accessed Month Day, Year).

A periodical published only in electronic format may include additional electronic features, data, or commentaries. Use the reference style for periodicals, and include the direct URL of the article as well as the date accessed. Volume and page numbers are often not relevant. If they are not used, include the article number, DOI, or other identifying information.


**RECOMMENDED FORMAT FOR ARTICLES RETRIEVED FROM PREPRINT SERVERS**

Author 1; Author 2; Author 3; etc. Title of Article. Year, Article Number. Name of Repository. URL (accessed Month Day, Year).


**Online Books**

Books published online generally correspond to printed versions, and the reference styles are similar. Online location and access date should always be included when citing online books. Reference works published online are often updated with new content, and the dates on which sections were posted or updated should also be included.

**RECOMMENDED FORMAT FOR ONLINE BOOKS WITHOUT EDITORS**

Author 1; Author 2; Author 3; etc. *Book Title* [Online]; Series Information (if any); Publisher: Place of Publication, Year; Volume Number, Pagination. URL (accessed Month Day, Year).
Web Sites

Aside from online periodicals and books, general Web sites containing a wide variety of information might need to be cited. Some sites are accessible by anyone, but many are accessible only by subscription. Reference styles for FTP and Telnet sites are similar to those for Web sites. Specific examples are given here for general Web sites and databases, stand-alone documents, unpublished conference proceedings, and electronic theses.

RECOMMENDED FORMAT FOR GENERAL WEB SITES

Author (if any). Title of Site. URL (accessed Month Day, Year), other identifying information (if any).

Use the title found on the Web site itself; add the words “Home Page” for clarification when needed. Data retrieved from Internet-based databases should include a data entry number. Stand-alone databases should be cited as computer programs (see p 323).


RECOMMENDED FORMAT FOR DOCUMENTS RETRIEVED FROM INSTITUTIONAL OR AGENCY WEB SITES

Author 1; Author 2; Author 3; etc. Title of Document, Year. Title of Site. URL (accessed Month Day, Year).

If an article is contained within a large and complex Web site, such as that for a university or a government agency, the host organization and the relevant program or department should be identified before giving the direct URL of the article and accession date.


RECOMMENDED FORMAT FOR ONLINE UNPUBLISHED CONFERENCE PRESENTATIONS

Author 1; Author 2; etc. Title of Presentation. Presented at Conference Title [Online], Place, Date; Paper Number. Title of Site. URL (accessed Month Day, Year).

Works presented at conferences or meetings can be cited in several formats, as discussed earlier in this chapter. Generally, published abstracts or proceedings can be cited as online books or as online periodicals. Materials from oral presentations, posters, or demonstrations that do not contain publication information should be cited as follows.


RECOMMENDED FORMAT FOR ELECTRONIC THESSES

Author. Title of Thesis. Level of Thesis [Online], Degree-Granting University, Location of University, Date of Completion. URL (accessed Month Day, Year).

Electronic Lists and Newsgroups

**RECOMMENDED FORMAT FOR ELECTRONIC LISTS AND NEWSGROUPS**

Mailing List or Newsgroup Name, other information, electronic address (accessed Month Day, Year).

Chemical Information List Server, CHMINF-L@iubvm.ucs.indiana.edu (accessed Oct 13, 2004).

Computational Chemistry List, solvent discussion in archived messages of September 2003, chemistry@cdl.net (accessed Nov 10, 2004).

Molecular Diversity for Basic Research & Drug Discovery, mol-diversity@listserv.arizona.edu (accessed Nov 10, 2004).

Electronic Mail Messages

Whether the message was personal and sent only to you or whether it was posted in a newsgroup, it is not published. E-mail messages should be cited the same as any other personal communication. Include the year and the professional affiliation of the author.

**RECOMMENDED FORMAT FOR ELECTRONIC MAIL MESSAGES**

Author. Affiliation, City, State. Personal communication, Year.

Solla, L. R. Cornell University, Ithaca, NY. Personal communication, 2005.

CD-ROMs and DVDs

The reference style for information published in CD-ROM or DVD format follows that for periodicals and books as appropriate, and the designation “CD-ROM” or “DVD” is included in brackets.

**RECOMMENDED FORMAT FOR CD-ROM AND DVD PERIODICALS**

Author 1; Author 2; Author 3; etc. Title of Article. *Journal Abbreviation* [CD-ROM or DVD] Year, Volume, pagination or other identifying information.


**RECOMMENDED FORMATS FOR CD-ROM AND DVD BOOKS**

Author 1; Author 2; etc. Chapter Title. In *Book Title*, Edition Number [CD-ROM or DVD]; Editor 1, Editor 2, etc., Eds.; Publisher: Place of Publication, Year; Volume Number.

Author 1; Author 2; etc. Chapter Title. *Book Title*, Edition Number [CD-ROM or DVD]; Publisher: Place of Publication, Year; Volume Number.


Many books in CD-ROM or DVD format are reference works, so they have no authors, editors, or chapter titles.


**RECOMMENDED FORMAT FOR CONFERENCE PROCEEDINGS ON CD-ROM OR DVD**

Author 1; Author 2; etc. Title of Presentation. In *Title of Conference, Location of Meeting, Date of Meeting [CD-ROM or DVD]*; Publisher: Place of Publication, Year; other identifying information.


**Computer Programs**

References to computer programs must be treated on a case-by-case basis. Five common presentations of computer programs are possible:

1. book format, with the name of the program as the title
2. technical report format
3. CASSI format
4. free style, as a simple listing of program title and author of program
5. thesis style

**Book Format**

**RECOMMENDED FORMAT**

Author 1; Author 2; etc. *Program Title*, version or edition; Publisher: Place of Publication, Year.

The recommended format is the same as that for a book citation, except that there are no chapters or pages. The name of the computer program, with any descriptors, is considered the title and is set in italic type. If you wish to include additional information about a program that is important for the reader to know, you may add it at the end of the reference with or without parentheses or append it to the title in parentheses before the semicolon.


RECOMMENDED FORMAT FOR COMMERCIAL SOFTWARE AND DATABASES

Program Title, version or edition; comments; Publisher: Place of Publication, Year.

References to data should include the data entry number or other identifying information at the end of the citation. The date of access can also be included if the database is updated frequently. If the data retrieved are calculated data, also cite the software used for the calculation (for example, ACD/Labs).

Mathematica, version 5.1; software for technical computation; Wolfram Research: Champaign, IL 2004.

MDL CrossFire Commander, version 7; Elsevier MDL: San Leandro, CA, 2004; BRN 635994.


Technical Report Format

RECOMMENDED FORMAT

Author. Title of Report; Technical Report Number; Publisher: Place of Publication, Year; Pagination (if any).

In a citation to a computer program as a technical report, a report number is included. As with book format, the name of the computer program is considered the title of the technical report.


CASSI Format

Because of the broad base from which Chemical Abstracts indexes work, computer programs, in the form of technical reports, may be referenced. In such cases, CASSI format would be appropriate.


Free Style

When only minimal information (e.g., author and program name) is available, present the information as simply as possible.
Programs used in this study included local modifications of Jacobson’s ALLS, Zalkins’s FORDAP, Busing and Levy’s ORFEE, and Johnson’s ORTEP2.

Lozos, G.; Hoffman, B.; Franz, C. SIM14A, Chemistry Department, Northwestern University.

Thesis Style


Collating References

Collate all references at the end of the manuscript in numerical order if cited by number and in alphabetical order if cited by author. Do not include items in the reference list that are not cited in the manuscript. Check the publication for which you are writing. Some publications do not allow multiple references to be listed as one numbered entry; they prefer that each numbered entry include only one unique reference.

To collate references according to the author–date style, use the following format.

1. Alphabetize in order of the first authors’ surnames.
2. When the same first author is common to multiple references,
   • Group the single-author references first. List them chronologically. To distinguish among references having the same year, add a lowercase letter (a, b, c, etc.) to the year.
   • Group the two-author references next. List them chronologically. To distinguish among references having the same year, add a lowercase letter (a, b, c, etc.) to the year.
   • Group all multiple-author (three or more) references last. List them chronologically. To distinguish among references having the same year, add a lowercase letter (a, b, c, etc.) to the year.

Do not use the Latin terms ibid. (in the same place) or idem (the same) because the actual reference source cannot be searched on electronic databases.

Reference/Citation Managers

Software programs are available to assist with the process of collecting and collating references. With such programs, researchers can create personal electronic collections or libraries of references and tailor the formatting to any number of uses and publishing guidelines. Citations are parsed into searchable databases of component fields, and formatting templates draw on the data to produce reference lists in a variety of reference styles. The process is further enhanced by filters designed to correctly interpret the variety of incoming reference formats. Filters, fields, and templates are customizable to accommodate additional sources and styles.

Additional features have been developed to improve the convenience of these tools, including connection scripts for hundreds of public-access and subscription-based bibliographic databases and increased variety of field types to accommodate figures, cross-linking, personal annotation, etc. Plug-ins are available for word-processing packages to format citations within the text, reference lists, and lists of figures as authors write. There are also networking options for cooperative reference building and linking to full-text versions of references.

Researchers can search literature databases either directly or through a reference manager interface; import text, images, and figures from journal articles, Web sites, and other reference managers; arrange reference lists in numerous collections or libraries; search and retrieve records by any field; format footnotes, endnotes, and stand-alone bibliographies; share and co-edit these lists with colleagues; and export citations in hundreds of publication-specific styles in several languages. These software packages assist the research process from initial literature searching to writing and editing final publications.

Leading reference management programs include EndNote, Reference Manager, ProCite, RefWorks, and Biblioscape. EndNote, Reference Manager, and
ProCite are currently all owned by Thomson Scientific and are available as stand-alone software packages for both Windows and Macintosh platforms. RefWorks is a Web-based program with individual accounts that can be accessed across platforms from any point of Internet access. Biblioscape is available in a variety of stand-alone and Web-based options. For the most part, these programs cover the gamut of research disciplines and are fairly well populated with filters and templates specific to the chemistry literature. Reviews of these and other bibliographic management software tools are regularly available in the library literature.

The Thomson Scientific products were developed independently and still retain distinctive characteristics in their functionality. EndNote focuses on the reference input and output needs of the individual researcher, with hundreds of connection scripts and filters and more than 1000 citation style templates. EndNote is updated regularly and has a growing number of enhanced features available. Reference Manager has traditionally targeted collaborative reference sharing between colleagues, with networking options that allow multiple users to work on the same reference list for a project. Some of these features are now becoming available in EndNote as well. Reference Manager is only available for the Windows platform. ProCite has focused on managing reference collections with larger numbers of fields and reference types and more advanced grouping and searching techniques. ProCite has not been updated since version 5 in 2001.

RefWorks is published by RefWorks.com and emphasizes the convenience and collaborative nature of Web-based software. The program and updates are provided on the RefWorks server, and users’ bibliographic data are stored there as well. Multiuser accounts are available for collaborative work. The options for filters, fields, reference types, and templates are less developed in RefWorks than in the other tools discussed here and do not include filters or templates for ACS journal styles.

Biblioscape is published by CG Information, founded by scientists specifically to manage scientific and electronic information. Biblioscape is a suite of products with different sets of features designed for a variety of users, including undergraduate and graduate students, researchers, and librarians. Options include Web access, intranet, and freeware editions. More than 1000 output styles are available, including the ACS journal styles.
# APPENDIX 14-1

**CASSI Abbreviations for the 1000+ Most Commonly Cited Journals**

This appendix lists the *Chemical Abstracts Service Source Index*, or CASSI, abbreviations for more than 1000 of the most commonly cited journals. Note that some journals of the same name are published in more than one city. Authors should check the journal name carefully and include the city to prevent misunderstanding.

<table>
<thead>
<tr>
<th>Journal Name</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIChe J.</td>
<td>Anesthesiology</td>
</tr>
<tr>
<td>Am. J. Cardiol.</td>
<td>Anti-Cancer Drugs</td>
</tr>
<tr>
<td></td>
<td>Antioxid. Redox Signaling</td>
</tr>
</tbody>
</table>

Appl. Catal., A
Appl. Catal., B
Appl. Geochem.
Appl. Spectrosc.
Aquaculture
Aquat. Toxicol.
Arch. Biochem. Biophys.
Arch. Environ. Contam. Toxicol.
Arch. Pharmacal Res.
Arch. Virol.
ARKIVOC (Gainesville, FL, U.S.)
Arthritis Rheum.
Asian J. Chem.
Astron. J.
Astrophys. J.
Atherosclerosis (Amsterdam, Neth.)
Atmos. Chem. Phys.
Atmos. Environ.
Bandaoti Xuebao
Behav. Brain Res.
Biochem. Eng. J.
Biochem. J.
Biochem. Pharmacol.
Biochem. Soc. Trans.
Biochem. Syst. Ecol.
Biochemistry
Biochemistry (Moscow, Russ. Fed.)
Biochim. Biophys. Acta
Bioconjugate Chem.
Bioinformatics
Biol. Chem.
Biol. Psychiatry
Biol. Reprod.
Biomacromolecules
Biomaterials
Biophys. Chem.
Biophys. J.
Biopolymers
Biosci., Biotechnol., Biochem.
BioTechniques
Biotechnol. Prog.
Blood
BMC Bioinf.
Bone (San Diego, CA, U.S.)
Bone Marrow Transplant.
Br. J. Anaesth.
Br. J. Cancer
Br. J. Haematol.
Br. J. Pharmacol.
Brain Res.
Breast Cancer Res. Treat.
Bull. Environ. Contam. Toxicol.
Bunseki Kagaku
C. R. Chim.
Cailiao Kexue Yu Gongcheng Xuebao
Cancer (New York, NY, U.S.)
Cancer Biol. Ther.
Cancer Cell
Cancer Chemother. Pharmacol.
Cancer Epidemiol., Biomarkers Prev.
Cancer Lett. (Amsterdam, Neth.)
Cancer Res.
Cancer Sci.
Carbon
Carbohydr. Polym.
Carbohydr. Res.
Carcinogenesis
Catal. Today
Cell (Cambridge, MA, U.S.)
Cell Biol. Int.
Cell Cycle
Cell Death Differ.
Cell. Signalling
Cem. Concr. Compos.
Ceram. Int.
Ceram. Trans.
Cereal Chem.
Chem. Biol.
Chem. Eng. J. (Amsterdam, Neth.)
Chem. Eng. News
Chem.—Eur. J.
Chem. Geol.
Chem. Lett.
Chem. Mater.
Chem. Phys.
Chem. Rev. (Washington, DC, U.S.)
Chem. Sens.
ChemBioChem
Chemosphere
ChemPhysChem
Chest
Chin. Chem. Lett.
Chin. Med. J. (Beijing, China, Engl. Ed.)
Chromatographia
Circ. Res.
Circulation
Clin. Exp. Allergy
Colloid Polym. Sci.
Colloids Surf., A
Colloids Surf., B
Combust. Flame
Compos. Sci. Technol.
Corros. Sci.
Crit. Care Med.
Cuihua Xuebao

Curr. Sci.
Cytogenet. Genome Res.
Cytokine+
Dalton Trans.
Desalination
Dev. Biol. (San Diego, CA, U.S.)
Dev. Brain Res.
Dev. Cell
Dev. Dyn.
Development (Cambridge, U.K.)
Di-San Junyi Daxue Xuebao
Diabetes
Diabetologia
Diamond Relat. Mater.
Dianchi
Dianyuan Jishu
Dier Junyi Daxue Xuebao
Diffus. Defect Data, Pt. B
Dig. Dis. Sci.
Disi Junyi Daxue Xuebao
Diyi Junyi Daxue Xuebao
DNA Repair
Dokl. Earth Sci.
Drug Metab. Dispos.
Dyes Pigm.
EAAP Publ.
Earth Planet. Sci. Lett.
Ecotoxicol. Environ. Saf.
Electroanalysis
Electrochemistry (Tokyo, Jpn.)
Electrochim. Acta
Electron. Lett.
Electrophoresis
EMBO J.
EMBO Rep.
Endocrinology
Energy Fuels
Environ. Health Perspect.
Environ. Technol.
Environ. Toxicol. Chem.
Enzyme Microb. Technol.
Eukaryotic Cell
Eur. J. Cancer
Eur. Phys. J. A
Eur. Phys. J. D
Eur. Space Agency, [Spec. Publ.] SP
Europhys. Lett.
Exp. Cell Res.
Exp. Eye Res.
Exp. Gerontol.
Exp. Neurol.
Expert Opin. Invest. Drugs
Expert Opin. Pharmacother.
Farmaco
FASEB J.
FEBS Lett.
FEMS Microbiol. Lett.
Fenxi Huaxue
Fenxi Kexue Xuebao
Fenxi Shiyanshi
Ferroelectrics
Fish Physiol. Biochem.
Fiz. Khim. Tverd. Tila
Fluid Phase Equilib.
Food Addit. Contam.
Food Chem.
Food Chem. Toxicol.
Food Hydrocolloids
Forensic Sci. Int.
Free Radical Res.
Front. Biosci.
Fuel
Fusion Energy
Fusion Eng. Des.
Gangtie
Gaodeng Xuexiao Huaxue Xuebao
Gaofenzi Cailiao Kexue Yu Gongcheng
Gaofenzi Xuebao
Gaoneng Wuli Yu Hewuli
Gaoxiao Huaxue Gongcheng Xuebao
Gastroenterology
Gendi Iryo
Gene
Gene Expression Patterns
Gene Ther.
Genes Dev.
Genetics
Genome Res.
Genomics
Gongcheng Suliao Yingyong
Gongneng Cailiao
Gongye Cuihua
Green Chem.
Guangpu Shiyanshi
Guangpuxue Yu Guangpu Fenxi
Guangzi Xuebao
Guisuanyan Xuebao
Gut
Gynecol. Oncol.
Haematologica
Handb. Exp. Pharmacol.
Han’guk Hwankyong Uisaeng Hakhoechi
Han’guk Sikp’um Yongyang Kwahak
Hoechi
Hecheng Huaxue (1000)
Hecheng Xiangjiao Gongye
Hepatology (Philadelphia, PA, U.S.)
Heterocycles
Horm. Metab. Res.
Huagong Shikan
Huagong Xuebao (Chin. Ed.)
Huanjing Kexue Xuebao
Huanjing Wuran Zhili Jishu Yu Shebei
Huaxue Tongbao
Huaxue Xuebao
Huaxue Yanjiu Yu Yingyong
Hum. Mol. Genet.
Hum. Mutat.
Hum. Pathol.
Hum. Reprod.
Hydrobiologia
Hyomen Gijutsu
Hyperfine Interact.
Hypertension
IEEE Trans. Electron Devices
Igaku no Ayumi
Immunology
Med. Chem.
Indian J. Environ. Prot.
Indian J. Pharm. Sci.
Infect. Immun.
Inflammation Res.
Inorg. Chem.
Inorg. Mater.
Insect Biochem. Mol. Biol.
Int. Conf. Thermoelectr.
Int. Congr. Ser.
Int. DATA Ser., Sel. Data Mixtures, Ser. A
J. Environ. Radioact.
J. Essent. Oil Res.
J. Exp. Biol.
J. Exp. Bot.
J. Exp. Med.
J. Fluorine Chem.
J. Food Prot.
J. Food Sci.
J. Geophys. Res., [Atmos.]
J. Hazard. Mater.
J. Hepatol.
J. Heterocycl. Chem.
J. Histochem. Cytochem.
J. Hypertens.
J. Immunol.
J. Immunol. Methods
J. Indian Chem. Soc.
J. Infect. Dis.
J. Korean Ceram. Soc.
J. Leukocyte Biol.
J. Lipid Res.
J. Lumin.
J. Mass Spectrom.
J. Mater. Chem.
J. Mater. Res.
J. Mater. Sci.
J. Mater. Sci. Technol. (Shenyang, China)
J. Med. Chem.
J. Membr. Sci.
J. Microbiol. Methods
J. Mol. Biol.
J. Mol. Liq.
J. Mol. Spectrosc.
J. Mol. Struct.
J. Nat. Prod.
J. Neurochem.
J. Neuroimmunol.
J. Neurophysiol.
J. Neurosci.
J. Non-Cryst. Solids
J. Nucl. Mater.
J. Nutr.
J. Pathol.
J. Pharm. Pharmacol.
J. Pharm. Sci.
J. Pharmacol. Sci. (Tokyo, Jpn.)
J. Photochem. Photobiol., A
J. Phys. Chem. A
J. Phys. Chem. B
J. Phys. Chem. Solids
J. Phys.: Condens. Matter
J. Phys. IV
J. Plant Physiol.
J. Power Sources
J. Quant. Spectrosc. Radiat. Transfer
J. Radioanal. Nucl. Chem.
J. Raman Spectrosc.
J. Rheumatol.
J. Thromb. Haemostasis
J. Urol. (Hagerstown, MD, U.S.)
J. Vac. Sci. Technol., A
J. Virol.
J. Virol. Methods
JAERI—Conf
JETP Lett.
Jiegou Huaxue
Jikken Igaku
Jingxi Huagong
Jingxi Huagong Zhongjianti
Jinshu Xuebao
Jisuanji Yu Yinglyong Huaxue
Jixie Gongcheng Cailiao
Jpn. J. Appl. Phys., Part 1
Jpn. J. Appl. Phys., Part 2
Kagaku to Kogyo (Tokyo, Jpn.)
Kagaku to Kyoiku
Kagaku to Seibutsu
KEK Proc.
Key Eng. Mater.
Kidney Int.
Kogyo Zairyo
Kongop Hwahak
Lab. Invest.
Lancet
Langmuir
Leuk. Lymphoma
Leuk. Res.
Leukemia
Life Sci.
Low Temp. Phys.
Lung Biol. Health Dis.
Macromol. Symp.
Macromolecules
Mater. Lett.
Mater. Sci. Eng., A
Mater. Sci. Eng., B
Mater. Sci. Eng., C
Mater. Sci. Forum
Mater. Trans.
Meat Sci.
Mech. Dev.
Med. Hypotheses
Meded.—Fac. Landbouwkld. Toegepaste Biol. Wet. (Univ. Gent)
Metab., Clin. Exp.
Metall. Mater. Trans. A
Methods Enzymol.
Methods Mol. Biol. (Totowa, NJ, U.S.)
Methods Mol. Med.
Microbes Infect.
Microbiology (Reading, U.K.)
Microchem. Acta
Microelectron. Eng.
Microelectron. Reliab.
Microporous Mesoporous Mater.
Miner. Eng.
Mod. Phys. Lett. A
Mol. Biochem. Parasitol.
Mol. Biol. Cell
Mol. Brain Res.
Mol. Cancer Ther.
Mol. Cell
Mol. Ecol.
Mol. Ecol. Notes
Mol. Endocrinol.
Mol. Genet. Genomics
Mol. Genet. Metab.
Mol. Med. (Tokyo, Jpn.)
Mol. Microbiol.
Mol. Pharmacol.
Mol. Phys.
Mol. Psychiatry
Mol. Reprod. Dev.
Mol. Ther.
Monatsh. Chem.
Mutat. Res.
Nano Lett.
Nanotechnology
NASA Conf. Publ.
Nat. Biotechnol.
Nat. Genet.
Nat. Immunol.
Nat. Mater.
Nat. Med. (New York, NY, U.S.)
NATO Sci. Ser., II
NATO Sci. Ser., IV
NATO Sci. Ser., Ser. I
Naunyn-Schmiedeberg's Arch. Pharmacol.
Nephrol., Dial., Transplant.
Neuron
Neurobiol. Aging
Neurobiol. Dis.
Neurochem. Int.
Neurochem. Res.
Neurology
Neuropharmacology
Neuropsychopharmacology
NeuroReport
Neurosci. Lett.
Neuroscience (Oxford, U.K.)
New Phytol.
Nippon Kessho Seicho Gakkaishi
Nippon Kikai Gakkai Ronbunshu, B-hen
Nongyao
Nongye Huanjing Kexue Xuebao
Nucl. Fusion
Nucl. Phys. A
Nucl. Phys. B
Nucleic Acids Res.
Nucleosides, Nucleotides Nucleic Acids
Oncogene
Oncol. Rep.
Opt. Mater. (Amsterdam, Neth.)
Opt. Spectrosc.
Org. Lett.
Organohalogen Compd.
Organometallics
Pain
Peptides (New York, NY, U.S.)
Pfluegers Arch.
Pharm. Chem. J.
Pharm. Res.
Pharmacol., Biochem. Behav.
Pharmazie
Philos. Mag.
Phosphorus, Sulfur Silicon Relat. Elem.
Phys. At. Nucl.
Phys. Fluids
Phys. Lett. A
Phys. Lett. B
Phys. Plasmas
Phys. Rev. D: Part. Fields
Phys. Solid State
Phys. Status Solidi A
Phys. Status Solidi B
Phys. Status Solidi C
Physica B (Amsterdam, Neth.)
Physica C (Amsterdam, Neth.)
Physica E (Amsterdam, Neth.)
Physiol. Behav.
Physiol. Genomics
Physiol. Plant.
Phytochemistry (Elsevier)
Planta
Plant Cell
Plant Cell Physiol.
Plant J.
Plant Mol. Biol.
Plant Physiol.
Plant Sci. (Amsterdam, Neth.)
Plant Soil
Planta Med.
Plasma Phys. Controlled Fusion
Plast. Massy
Polyhedron
Polym. Int.
Polym. J. (Tokyo, Jpn.)
Polymer
Poult. Sci.
Poverkhnost
Powder Technol.
Pramana
Prostaglandins, Leukotrienes Essent. Fatty Acids
Prostate (New York, NY, U.S.)
Protein Expression Purif.
Protein Sci.
Proteomics
Psychopharmacology (Berlin, Ger.)
Pure Appl. Chem.
Quim. Nova
Ranliao Huaxue Xuebao
Recents Prog. Genie Procedes
Regul. Pept.
Rengong Jingti Xuebao
Reproduction (Bristol, U.K.)
Res. Discl.
Rev. Chim. (Bucharest, Rom.)
RILEM Proc.
Rinsho Men’eki
RNA
Russ. J. Appl. Chem.
Russ. J. Electrochem.
Russ. J. Genet.
Saibo Kogaku
Sci. Total Environ.
Science (Washington, DC, U.S.)
Scr. Mater.
Sekitan Kagaku Kaigi Happyo Ronbunshu
Semiconductors
Sens. Actuators, A
Sens. Actuators, B
Sepu
Shandong Daxue Xuebao, Yixueban
Shengwu Yixue Gongchengxue Zazhi
Shijie Huaren Xiaohua Zazhi
Shipin Kexue (Beijing, China)
Shiyou Huanggong
Shiyou Lianzhi Yu Huangong
Shock
Soil Sci. Soc. Am. J.
Solid State Commun.
Solid-State Electron.
Solid State Ionics
Spectrochim. Acta, Part A
Spectrochim. Acta, Part B
Steroids
Stroke
Structure (Cambridge, MA, U.S.)
Surf. Interface Anal.
Surf. Sci.
Symp.—Int. Astron. Union
Synlett
Synth. Met.
Synthesis
Talanta
Tanpakushitsu Kakusan Koso
Tech. Phys.
Tetrahedron
Tetrahedron: Asymmetry
Tetrahedron Lett.
Tetsu to Hagane
Text. Res. J.
Tezhong Zhuzao Ji Youse Hejin
THEOCHEM
Theriogenology
Thermochem. Acta
Thin Solid Films
Thromb. Haemostasis
Thromb. Res.
Tissue Antigens
Tissue Eng.
Tokyo Daigaku Genshiryoku Kenkyu Sogo
Senta Shinpojumu
Top. Catal.
Toxicol. Lett.
Toxicol. Sci.
Toxicology
Toxicon
Trans. Nonferrous Met. Soc. China
Transition Met. Chem. (Dordrecht, Neth.)
Transplant. Proc.
Transplantation
Trends Opt. Photonics
Tvstn. Met. (Moscow, Russ. Fed.)
Vaccine
Vacuum
VDI—Ber.
Virology
Virus Res.
Water, Air, Soil Pollut.
Water Res.
Wear
World J. Gastroenterol.
Wuji Cailiao Xuebao
Wuji Huaxue Xuebao
Wuli Huaxue Xuebao
Wuli Xuebao
Xibao Yu Fenzi Mianyixue Zazhi
Xiyou Jinshu
Xiyou Jinshu Cailiao Yu Gongcheng
Yaoxue Xuebao
Yingyong Huaxue
Yingyong Shengtai Xuebao
Youji Huaxue
Z. Metallkd.
Z. Naturforsch., C: J. Biosci.
Zairyo
Zhengzhou Daxue Xuebao, Yixueban
Zhongcaoyao
Zhongguo Bingli Shengli Zazhi
Zhongguo Dongmai Yinghua Zazhi
Zhongguo Gonggong Weisheng
Zhongguo Jiguang
Zhongguo Jishui Paishui
Zhongguo Shenghua Yaowu Zazhi
Zhongguo Shengwu Gongcheng Zazhi
Zhongguo Shengwu Huaxue Yu Fenzi
Shengwu Xuebao
Zhongguo Shouyi Xuebao
Zhongguo Suliao
Zhongguo Xinyao Zazhi
Zhongguo Xitu Xuebao
Zhongguo Yaolixue Tongbao
Zhongguo Yaoxue Zazhi (Beijing, China)
Zhongguo Yiyao Gongye Zazhi
Zhongguo Yiyuan Yaoxue Zazhi
Zhongguo Youse Jinshu Xuebao
Zhonghua Yixue Yichuanxue Zazhi
Zhongliu Fangzhi Zazhi
APPENDIX 14-2

A Sample CASSI Entry


AMERICAN CHEMICAL SOCIETY. JOURNAL. WASHINGTON, D. C.

Doc. Supplier: CAS.

AAP; AB 1905+; ABSR; ARaS; ATVA; AU–M 1893–1918,1920–1926,1928+; AkU 1879–1906,1919+; ArU; ArU–M 1923+; AzTeS; AzU 1889+; C; CL; CLSU; CLSU–M 1895–1897,1905,1908+; CLU–M; CLU–P; CMenSR 1916+; CPT; CSf; CSt; CSt–L; CU; CU–A; CU–I 1920+; CU–M; CU–Riv 1907+; CU–RivA; CU–RivP; CU–S; CU–SB; [etc.]

In this example,

- Journal of the American Chemical Society is the complete publication title with its abbreviated form indicated by boldface type (J. Am. Chem. Soc.).
- JACSAT is the CODEN, a six-character, unique title abbreviation used to represent titles in manual or machine-based information systems. The CODEN source is the International CODEN Directory, administered by Chemical Abstracts Service. The sixth character of each CODEN is a computer-calculated check character that ensures the reliability of the CODEN in computer-based systems.
- ISSN 0002–7863 is the International Standard Serial Number (ISSN), assigned by the Library of Congress.
- Absorbed Am. Chem. J. is a reference to former titles and to any variant forms of the selected title.
- In English; English sum. is the language of the publication, summaries, and tables of contents.
- History: v1 1879+ is the history of the publication. Volume 1 began in 1879. The + following the year indicates that the publication is still in existence under that title.
- w means weekly. The frequency of publication could also be a for annually, ba for biennially (every two years), bm for bimonthly (every two months), bw for biweekly (every two weeks), d for daily, m for monthly, q for quarterly, sa for semiannually (two times per year), sm for semimonthly (two times per month), or sw for semiweekly (two times per week).
• **126 2004** is the volume–year correlation (i.e., the first volume number of that year, which is the most recent covered by that edition of *CASSI*; volume 126 was the first volume number of 2004).

• **ACS Journals or Maruzen** is the publisher or source address or abbreviation.

• **AMERICAN CHEMICAL SOCIETY. JOURNAL. WASHINGTON, D. C.** is the AACR entry. This is the abbreviated entry as catalogued according to the *Anglo-American Cataloguing Rules* (2nd ed.). It is included here because of its predominance in library collection records.

• **Doc. Supplier: CAS** means that articles are available through the CAS Document Delivery Service.

• **AAP; AB 1905+; ABSR;** etc., is the library holdings information. Libraries are identified by their *National Union Catalog* symbols, and holdings are shown by inclusive years.