

Zotero: automatic bibliography within WYSIWYG editors

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Citation example

...

I shall add a citation after this sentence ^[1].

...

References

[1]. V. Bachler, G. Olbrich, F. Neese, K. Wieghardt,
Inorg. Chem. **2002**, *41*, 4179–4193.

“BibTeX-style” bibliography

- Automatic generation of the citation text according to the pattern, *e.g.*:
 - V. Bachler, G. Olbrich, F. Neese, K. Wieghardt, *Inorg. Chem.* **2002**, *41*, 4179–4193.or:
 - Bachler, V., Olbrich, G., Neese, F. & Wieghardt, K. Theoretical Evidence for the Singlet Diradical Character of Square Planar Nickel Complexes Containing Two *o*-Semiquinonato Type Ligands. *Inorg. Chem.* **41**, 4179–4193 (2002).
- Automatic reordering and renumbering of the citations due to the order of their first appearance in the text.

Problem:

*how to get the same features in
WYSIWYG Offices?*

Related problems: organizing the collection

- Manual formation of BibTeX items — slow and annoying.
- Scientific journals — usually have an interface to export citation as a single BibTeX reference in text file.
- How about:
 - One-click?
 - Addition by DOI?
 - By PMID?
 - By ISBN?
 - Synchronization?

Zotero

- F/LOSS (AGPL)
- Firefox plugin / Standalone application + Office plugins
- Includes:
 - A set of citation grabbers (by URL, DOI, ISBN, *etc.*);
 - Organization using: collections, tags, overall search;
 - Synchronization via Zotero's own service.
- Huge library of style definitions via XML-based Citation Style Language (CSL) — and yes, including even 'GOST' massacre
<https://www.zotero.org/styles> (one-click installation)
- Intercommunication with BibTeX collections, Mendeley *etc.*

Zotero: organization of the library

The screenshot shows a ScienceDirect article page with the following components:

- Article Title:** Catalytic reduction of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) by cobalt(I) salen electrogenerated at vitreous carbon cathodes
- Journal:** Journal of Electroanalytical Chemistry, Volume 568, 1 July 2004, Pages 157–165
- Authors:** Jared D. Persinger^a, Jack L. Hayes^b, Lee J. Klein^b, Dennis G. Peters^b, Jonathan A. Karty^b, James P. Reilly^b
- Search Bar:** Search ScienceDirect
- Recommended articles:** Cyclic voltammetric and spectrophotometric invest..., Stoichiometric reduction of primary alkyl monoha..., Direct and cobalt(I) salen-catalyzed reduction of 2,6...
- Annotations:** Red arrows point to 'Collections' (left sidebar), 'Search' (top search bar), and 'Tags and related' (right sidebar). A red circle highlights the Zotero interface at the bottom.

The Zotero interface at the bottom includes:

- Left Sidebar:** Library structure with folders like 'Моя бібліотека', '2pyInz', 'Allgemeine', 'CV', 'DFT_2pyInz_artricle', 'disser', 'Electrochemische dehalog...', 'Koordinationspolymere', 'Kristallografie', 'Magnetochemie', 'Patent NT', 'Quantum Rechnungen', 'Unsere', 'Дублікати документів', 'Незаповнені документи', 'Кошик'.
- Table:** List of articles with columns 'Назва' and 'Автор'. The first article is 'Catalytic reduction of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) by cobalt(I) salen elec...' by Persinger et al.
- Right Panel:** Metadata for the selected article, including 'Тип документа: Стаття з журналу', 'Назва: Catalytic reduction of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) by cobalt(I) salen electrogenerated at vitreous carbon cathodes', and a list of authors with expand/collapse icons.

Grabbing citations

The image shows a ScienceDirect article page for "Catalytic reduction of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) by cobalt(I) salen electrogenerated at vitreous carbon cathodes". A red circle highlights the browser's address bar, and a red arrow points to the Zotero extension icon in the toolbar with the text "Grab current page". Another red arrow points to the article title with the text "By identifier". Below the article page, a Zotero library view is shown with a table of articles and a metadata panel on the right.

ScienceDirect Journals Books Shopping cart Sign in Help

Journal of Electroanalytical Chemistry
Volume 568, 1 July 2004, Pages 157–165

Catalytic reduction of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) by cobalt(I) salen electrogenerated at vitreous carbon cathodes
Persinger^a, Jack L. Hayes^b, Lee J. Klein^b, Dennis G. Peters^b, Jonathan A. Karty^b, James P. Reilly^b

Choose an option to locate/access this article:
Check if you have access through your login credentials or your institution **Purchase \$35.95** Get Full Text Elsewhere

JavaScript частково дозволений, 4/9 (sciencedirect.com, elsevier.com, els-cdn.com, scopus.com) | <SCRIPT>: 65 | <OBJECT>: 0

Назва	Автор
Catalytic reduction of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) by cobalt(I) salen elec...	Persinger et al.
Comparison between heterogeneous and homogeneous electron transfer in p-phenylened...	Kapturkiewicz та Jaenicke
Conversion constants for redox potentials measured versus different reference electrodes I...	Pavlishchuk та Addison
Copper(II) and Nickel(II) Complexes of Dianionic and Tetraanionic Dinucleating Macrocy...	Nanda et al.
Cu(II)-Based MOF Immobilized on Multiwalled Carbon Nanotubes: Synthesis and Applicati...	Zhou et al.
Cyclic voltammetric study of the catalytic behavior of nickel(I) salen electrogenerated at a ...	Sweeny та Peters
Cyclic voltammetry of solid diphenylamine crystals immobilized on an electrode surface a...	Inzelt
Cyclic Voltammetry: Simulation and Analysis of Reaction Mechanisms	Gosser
Design of Electrode Materials for Lithium-Ion Batteries: The Example of Metal-Organic Fra...	Combelles et al.
Electrocatalytic activity of Basolite™ F300 metal-organic-framework structures	Babu et al.
Electrochemical activation of freons using electron transfer mediators	Koshechko та Pokhodenko
Electrochemical Analysis of Solids. A Review	Grygar et al.
Electrochemically driven reversible solid state metal exchange processes in polynuclear co...	Marken et al.
Electrochemical studies of organic compounds dissolved in carbon-paste electrodes	Schultz та Kuwana
Electrochemistry and Langmuir trough studies of fullerene C60 and C70 films	Jehoulet et al.
Electrochemistry nanometric patterning of MOF particles: Anisotropic metal electrodeposit...	Doménech et al.
Electrochemistry of Macrocyclic Cobalt(III/II) Hexaamines: Electrocatalytic Hydrogen Evolu...	Bernhardt та Jones
Electrochemistry of Metal-Organic Frameworks: A Description from the Voltammetry of ...	Doménech et al.

Тип документа: Стаття з журналу
Назва: Catalytic reduction of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) by cobalt(I) salen electrogenerated at vitreous carbon cathodes
Автор: Persinger, Jared D.
Автор: Hayes, Jack L.
Автор: Klein, Lee J.
Автор: Peters, Dennis G.
Автор: Karty, Jonathan A.
Автор: Reilly, James P.
Анотація: Cyclic voltammetry, controlled-potential

Citation styles

```
<if type="article-magazine">
  <group delimiter=" ">
    <text variable="container-title" font-style="italic" suffix="."/>
    <text macro="edition"/>
    <text macro="publisher"/>
    <text macro="full-issued" suffix=","/>
    <text macro="pages"/>
  </group>
</if>
<else-if type="thesis">
  <group delimiter=", ">
    <group delimiter=". ">
      <text variable="title"/>
      <text variable="genre"/>
    </group>
    <text macro="publisher"/>
    <text macro="issued"/>
    <text macro="volume"/>
    <text macro="pages"/>
  </group>
</else-if>
```

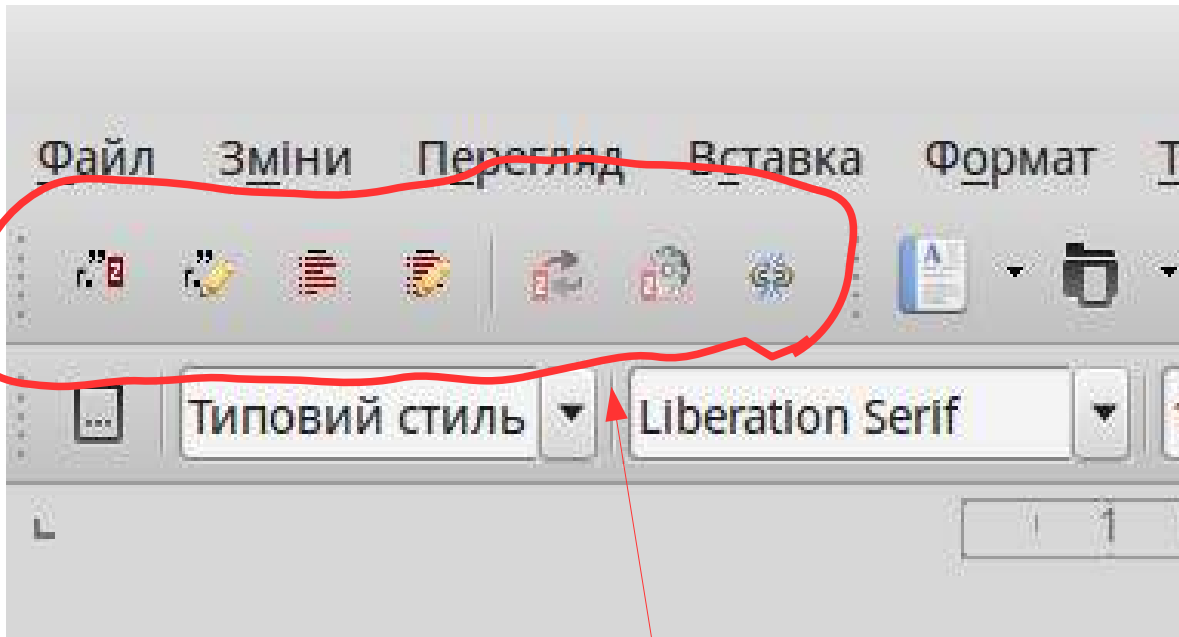
Fragment of
definition of
citations in
Journal of
American
Chemical
Society

Adaptation of the closest style is possible via a visual editor (search of the closest one basing on example is included in the editor):

<http://editor.citationstyles.org/searchByExample/>

Office plugins

Available: Open/Libre Office, M\$ Office >=2003.



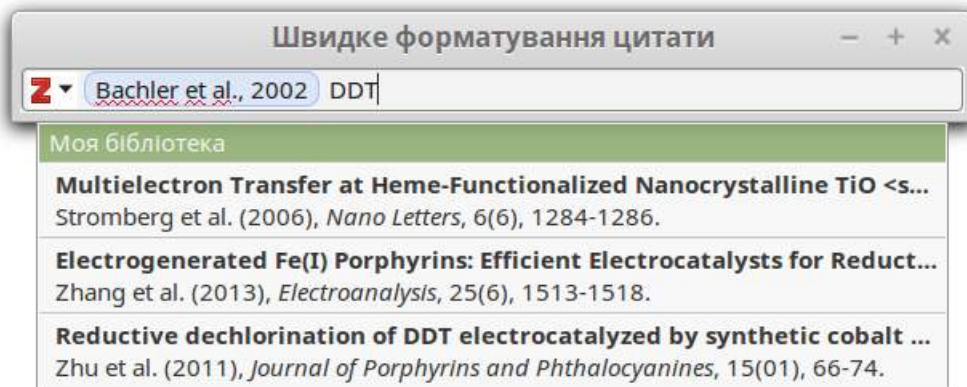
Zotero office plugin adds its toolbar (main way to access its capabilities)

- Adding citation;
- Edit citation
- Insert bibliography
- Edit bibliography
- Refresh
- Set document preferences
- Remove field codes

Adding citation

“Quick” interface:

I shall add a citation after this sentence {Citation}

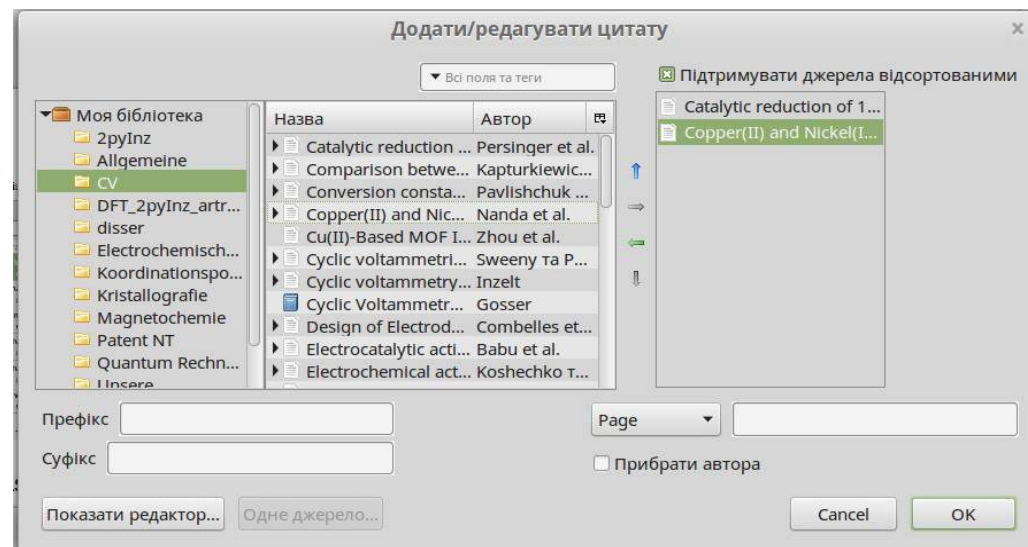
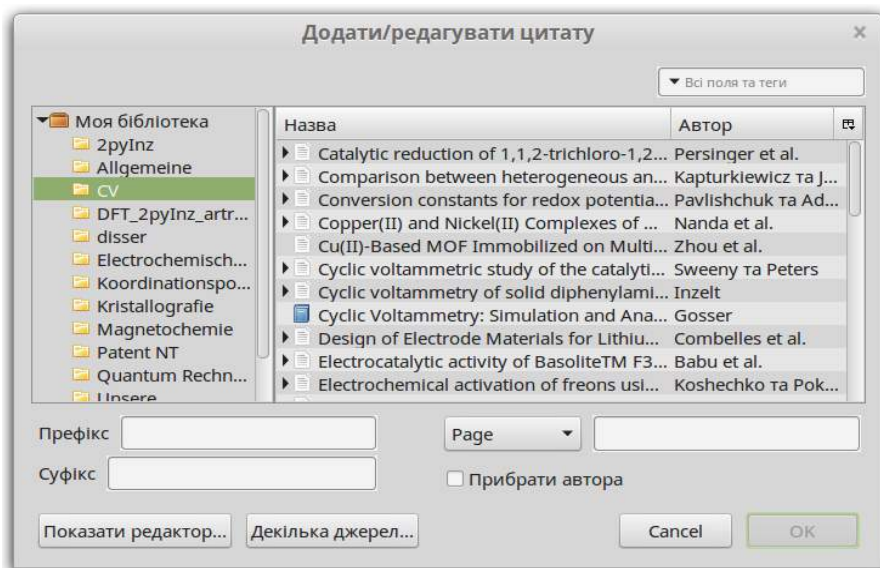


Result:

I shall add a citation after this sentence^[1,2]

- [1] V. Bachler, G. Olbrich, F. Neese, K. Wieghardt, *Inorg. Chem.* **2002**, *41*, 4179–4193.
- [2] W. Zhu, Y. Fang, W. Shen, G. Lu, Y. Zhang, Z. Ou, K. M. Kadish, *J. Porphyr. Phthalocyanines* **2011**, *15*, 66–74.

“Classic” (extended) view:



Document preferences

Are set during first usage of Zotero in the document and may be changed in any time

- A way of citation storage:
 - Reference Marks (OO)/Fields (M\$) — easy copy-paste, no OO/M\$ interchange — *default*.
 - Bookmarks — allow OO/M\$ interchange, but no copy-paste in text.
- Citation style (choose from list of installed)
- Store references in Document or not? (default — yes).

Editing and co-editing

- If citations are in Reference Marks (OO)/Fields (M\$):
 - The citations in text behave as the part of the text (may be copied, cut, deleted, pasted (both within the text or to a new document));
 - The document with Zotero citations may be processed on other computers without Zotero (even on M\$ Office 97 =)), one should just refresh the bibliography after this on the system with Zotero.

Tips and tricks: manual citation editing

- Direct editing is ineffective (changes will be missed after next refresh).
- Direct editing is possible after field code removal.
- Otherwise: internal capabilities.

No automatic update for edited citations will be performed by Zotero.

The number in the bibliography list won't be updated too! (reordering and renumbering the in text will be ok)

Редагувати бібліографію

Всі поля та теги

Моя бібліо...
2pyInz
Allgemeine
CV
DFT_2pyI...
disser
Electroch...
Koordina...
Kristallog...

Назва	Автор
Catalytic reduction ...	Persinger...
Comparison betwe...	Kapturkie...
Conversion consta...	Pavlishch...
Copper(II) and Nic...	Nanda et ...
Cu(II)-Based MOF I...	Zhou et al.
Cyclic voltammetri...	Sweeny T...
Cyclic voltammetry...	Inzelt
Cyclic Voltammetry...	Gosser

Посилання і бібліографії

Efficient, approximate and par...

B *I* U | x₂ x² | ↺

[1] F. Neese, F. Wennmohs, A. Hansen, U. Becker, *Chem. Phys.* 2009, 356, 98-109.

Попередження: Якщо ви зміните цитату в редакторі, вона більше не буде оновлюватись у відповідності зі змінами в базі даних або стилі цитування

Відмінити все Відмінити Cancel OK

Tips and tricks: manual creation

- Same technics — editing of the citations;
- Dummy object should be used as the original citation (e.g. Zotero note).

I shall add a citation after this sentence ^[1]

[1] n.d.

Редагувати бібліографію

Всі поля та теги

Моя бібліо...

Назва	Автор
2D Porous Honeycomb...	Dorofeev...
619. The polarographic...	Кауе та С...
Органическая эле...	Бейзер т...
Полунин, стаття ...	
Рамблер-Почта	
Спосіб формуван...	Литвине...
Спосіб формирова...	Кучменк...
Ab Initio Study of C...	Zhang et...

Посилання і бібліографії

- TMP reference for paper in Izv...

B **I** **U** | x₁ x₂ | ↺

[ZZZ] Lytvynenko et al., *Russ. Chem. Bull.*, in press.

Попередження: Якщо ви зміните цитату в редакторі, вона більше не буде оновлюватись у відповідності зі змінами в базі даних або стилі цитування

Відмінити все Відмінити Cancel OK

Tips and tricks: composite citations

Composite citation looks like that^[1]. Sometimes it is useful, until these perverts don't use something like [1a-b,d]...

[1] (a) V. Bachler, G. Olbrich, F. Neese, K. Wieghardt, *Inorg. Chem.* **2002**, *41*, 4179–4193. (b) F. Neese, F. Wennmohs, A. Hansen, U. Becker, *Chem. Phys.* **2009**, *356*, 98–109. (c) F. Neese, *Wiley Interdiscip. Rev. Comput. Mol. Sci.* **2012**, *2*, 73–78. (d) K. Ray, T. Petrenko, K. Wieghardt, F. Neese, *Dalton Trans.* **2007**, 1552.

- Zotero doesn't support composite citations natively, but there is a way:
 - Use Zotero to generate usual citations;
 - Copy them and edit to make a text for your composite citation;
 - Make a “dummy citation” (as previously shown);
 - Replace it's text by your composite citation.
 - Enjoy automatic reordering and renumbering by Zotero.

Conclusions and experience

- Zotero is a F/LOSS software that provides easy and highly automatic way to:
 - collect, organize and synchronize your citation database of scientific documents;
 - prepare (provide formatting, numbering and ordering of items) bibliography for your scientific works (“BibTeX-style”);
- Immodest list of results:

[1] A. S. Lytvynenko, S. V. Kolotilov, M. A. Kiskin, O. Cador, S. Golhen, G. G. Aleksandrov, A. M. Mishura, V. E. Titov, L. Ouahab, I. L. Eremenko, et al., *Inorg. Chem.* **2014**, *53*, 4970–4979.

[2] A. S. Lytvynenko, R. A. Polunin, M. A. Kiskin, A. M. Mishura, V. E. Titov, S. V. Kolotilov, V. M. Novotortsev, I. L. Eremenko, *Theor. Exp. Chem.* **2015**, *51*, 54–61.

[3] A. S. Lytvynenko, M. A. Kiskin, V. N. Dorofeeva, A. M. Mishura, V. E. Titov, S. V. Kolotilov, I. L. Eremenko, V. M. Novotortsev, *J. Solid State Chem.* **2015**, *223*, 122–130.

[4] A. S. Lytvynenko, S. V. Kolotilov, M. A. Kiskin, I. L. Eremenko, V. M. Novotortsev, *Phys. Chem. Chem. Phys.* **2015**, *17*, 5594–5605.

[5] A. С. Литвиненко, А. М. Мишура, В. Е. Титов, М. А. Кискин, С. Голхен, О. Кадор, С. В. Колотилов, Л. Уаб, И. Л. Еременко, В. М. Новоторцев, *Известия АН сер.хим.* **2015**, 306–317.