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National Centre
for Information Support of Research,
Development, and Innovation

Citation Management: Tools, Tips, and Best Practices

Barbora Vobrubová

IOCB PhD Skills Day: Essential researcher competencies

November 20, 2024

The project National Centre for Information Support of Research, Development and Innovation with the identification code MS2101 is implemented with the support of the Ministry of Education, Youth and Sports.

Learning objectives:

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- Know what, why and how to cite
- Understand citation methods and styles
- Be aware of what to look out for
- Understand tools you can use to make writing your PhD dissertation or articles easier

What you probably already know:

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Why cite?

- No one works in a vacuum: every study is built on previous work, which needs to be credited
- Differentiate between our work and the work of others
- Show that we did not make things up ☺
- Replication: if someone wanted to, they could find and check the information supporting claims we make

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Citing

- Direct citations × indirect (paraphrasing)
- Secondary citations
- **Citation**: appears in the text, refers to the source of the information, details found in References / Bibliography section of written academic text
  - ... and it has been used in development of antivirotics (Holý et al. 2002).
- **References** / Bibliography section: a list of all sources cited in the article with full details needed to find the original item referred to (e.g., article, book)
  - Holý, A., Votruba, I., Masojídková, M., Andrei, G., Snoeck, R., Naesens, L., ... & Balzarini, J. (2002). 6-[2-(Phosphonomethoxy) alkoxy] pyrimidines with antiviral activity. *Journal of Medicinal Chemistry*, 45(9), 1918-1929.

Citation method vs. style

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- Method (or system): how a citation is linked to the Reference/Bibliography section
  - Parenthetical (author-date, Harvard)
  - Numerical (Vancouver)
  - Footnotes
- Style = how the information in a reference is organized, what information it contains

Citation methods: Parenthetical citations (Harvard)

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- Citation contains name(s) of the author(s) and the year of publication in the text (sometimes includes page number as well, often required for direct quotes)
- References usually in alphabetical order
- Styles: APA, Chicago (author-date)

1. Introduction

Dormancy is a crucial biological tactic deployed by insects for their survival during adverse environmental conditions. Unlike quiescence, which is environmentally determined, diapause is a genetically determined dormancy (Tauber et al., 1986). To be precise, diapause is an environmentally stimulated, neuro-endocrine controlled, and genetically regulated physiological state of depressed metabolic activity used to survive predictable adverse environmental conditions. Depending on seasonal variations, insects may undergo hibernation (winter diapause) or aestivation (summer diapause) (Gill et al., 2017). Diapause being dynamic in nature, has various physiological stages (induction, maintenance, termination, and post-diapause development) with specific metabolic demands (Koštál, 2006; Koštál et al., 2017). During diapause,

References

Barnes, H., Blackstock, J., 1973. Estimation of lipids in marine animals and tissues: detailed investigations of the sulfophosphovallin method for total lipids. J. Exp. Mar. Biol. Ecol. 12, 103–118.

Bashan, M., Cakmak, O., 2005. Changes in composition of phospholipid and triacylglycerol fatty acids prepared from prediapausing and diapausing individuals of *Dolycoris baccarum* and *Piezodorus lituratus* (Heteroptera: Pentatomidae). Ann. Entomol. Soc. Am. 98 (4), 575–579.

Batz, Z.A., Armbruster, P.A., 2018. Diapause-associated changes in the lipid and metabolite profiles of the Asian tiger mosquito, *Aedes albopictus*. J. Exp. Biol. 221, 189480.

Çakmak, Ö., 2010. Seasonal changes in fatty acid composition of *Eysarcoris inconspicuous* (Herrich-Schaffer, 1844) (Heteroptera: Pentatomidae) adults. Türk. Entomol. Derg. 34 (1), 15–27.

Clarke, M.S., Worland, M.R., 2008. How insects survive the cold: molecular mechanisms: a review. J. Comp. Physiol. B. 178, 917–933.

Dan, Li, Ren, L.Z., Yue, W., Xiang, W.J., Ye, X., Ning, C.W., 2014. Changes of total lipids and triglycerides contents in pre-diapause, diapause and post-diapause larvae and pupae of *Sitodiplosis mosellana* (Diptera: Cecidomyiidae). Acta Entomol. Sin. 57 (5), 509–514.

Source: Tanwar, A. K., Dhillon, M. K., Hasan, F., Kumar, S., & Kirti, J. S. (2024). Lipid composition differs in diapause and nondiapause states of spotted stem borer, Chilo partellus. *Comparative Biochemistry and Physiology Part B: Biochemistry and Molecular Biology*, 110996.

Citation methods: Numerical citations (Vancouver)

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- Citation is a number, referring to a number in the Reference / Bibliography section
- Each reference has a unique number (usually the order in which it first appears in the text); references are sorted by these numbers

multiple intracellular signaling pathways such as mTOR, protein phosphatase 2A, Rho-GTPase, JNK, MAPK/ERK, and PIK3/AKT [4,38]. In line with anti-metastatic potential, the results of this assay indicated that Fingolimod can hinder both NOTCH-1 activity as a key

- If you need to refer to a specific page, page number should be differentiated from the reference number
  - [4, p. 72; 13, p. 759]
  - [4:72; 13:759]
- Styles: IEEE, AMA, Nature

Introduction

Sphingosine-1-phosphate (S1P) is a pleiotropic phospholipid with many biological functions [1]. S1P is formed intracellularly through the phosphorylation of the sphingolipd sphingosine by sphingosine kinases (SPHKs). Mammals have two isoforms of SPHKs, SPHK1 and SPHK2. Some reports in the literature have suggested differential roles for these two isoforms [2], but knockout studies in mice suggest that they are at least partially redundant. Single knockouts of either isoform do not have a phenotype besides reduced plasma S1P levels, while the double knockout is embryonic lethal, highlighting the importance of this system during development, particular for neurogenesis and angiogenesis [3].

References

1. Maceyka M, Harikumar KB, Milstien S, Spiegel S (2012) Sphingosine-1-phosphate signaling and its role in disease. Trends Cell Biol 22: 50–60.
View Article • Google Scholar

2. Orr Gandy KA, Obeid LM (2012) Targeting the sphingosine kinase/sphingosine 1-phosphate pathway in disease: Review of sphingosine kinase inhibitors. Biochim Biophys Acta.

3. Mizugishi K, Yamashita T, Olivera A, Miller GF, Spiegel S, et al. (2005) Essential role for sphingosine kinases in neural and vascular development. Mol Cell Biol 25: 11113–11121.
View Article • Google Scholar

Source: Rex, K., Jeffries, S., Brown, M. L., Carlson, T., Coxon, A., Fajardo, F., ... & Wesche, H. (2013). Sphingosine kinase activity is not required for tumor cell viability. *PLoS One*, *8*(7), e68328.

Citation methods: Footnotes

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- A unique number for each footnote (usually, even if you cite the same source multiple times on the same page)
- Can contain a full reference or a shortened reference
- Full bibliography at the end of the text (if the footnotes do not contain full references)
- Styles: Bluebook, Chicago notes and bibliography

numbers must follow one another in numerical order beginning with the number one."[2] Thus,

Turabian Style requires the use of Arabic numbers for footnoting rather than Roman numerals. In

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[2] Kate L. Turabian, *A Manual for Writers of Term Papers, Theses, and Dissertations*, (Chicago: University of Chicago Press, 2007), 127.

and compare with footnote 2 at the bottom of this page. Number 3 is from the same book, but

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[3] Turabian, *A Manual for Writers*, 350.

[4] Ibid., 159.

Soure: Underwood, J. (2017): Turabian Example Paper with Footnotes Sample Paper - Austin Peay State University Academic Support Center Writing Lab. Available at: https://www.slideshare.net/slideshow/turabian-example-paper-with-footnotes-sample-paper-austin-peay-state-university-academic-support-center-writing-lab/81162531#2

Citation methods and styles: Which one do I choose?

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- There are various citation norms and styles (e.g., ISO 690, APA, MLA)
- Journal publisher / university / institute usually defines which one you should use
- Always!
  - Use the same citation method and style for the entire text (be consistent)
  - Make sure each reference contains all the information necessary for tracing back the original source

Read the author guidelines

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Bioorganic Chemistry

Supports open access

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Submit your article ↗

Guide for authors

Bioorganic Chemistry | Supports open access

Articles & Issues | About | Publish | Order journal ↗ | Search in this journal

- Graphical abstract
- Math formulae
- Tables
- Figures, images and artwork
- Generative AI and Figures, images and artwork
- Supplementary material

References

References within text

Any references cited within your article should also be present in your reference list and vice versa. Some guidelines:

- References cited in your abstract must be given in full.
- We recommend that you do not include unpublished results and personal communications in your reference list, though you may mention them in the text of your article.

Remember while writing…

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- What citation method and style is required
- **Are all the citations in the Reference / Bibliography list and vice versa?**
- Did I cite everything I needed to, including e.g., data sources, norms or patents, images, graphs and figures, tables, schematics, chemical structures, multimedia files, software (R packages)?
- **Do not forget to check your citations if you are making revisions or resubmitting!**
- Problematic types of sources:
  - Non-English sources
  - Unpublished or “in press” studies
  - General web pages / social media
  - Sometimes: articles where you’re an author (“self-citations”)

What to look out for when formatting references

Authors

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APA:

Holý, A., Votruba, I., Masojídková, M., Andrei, G., Snoeck, R., Naesens, L., ... & Balzarini, J. (2002). 6-[2-(Phosphonomethoxy) alkoxy] pyrimidines with antiviral activity. *Journal of Medicinal Chemistry*, *45*(9), 1918-1929.

MLA:

Holý, Antonín, et al. '6-[2-(Phosphonomethoxy)Alkoxy]Pyrimidines with Antiviral Activity'. *Journal of Medicinal Chemistry*, vol. 45, no. 9, 2002, pp. 1918–29. https://doi.org/10.1021/jm011095y.

- First names: initials or full?
- Big author teams: how many of the authors should be included?
- Should the last names be in capital letters?
- Is the author unknown? Is it an organization? How does the citation norm/style I'm using manage this?

What to look out for when formatting references

Formatting details

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APA:

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IEEE:

A. Holý *et al.*, '6-[2-(Phosphonomethoxy)alkoxy]pyrimidines with Antiviral Activity', *J. Med. Chem.*, vol. 45, no. 9, pp. 1918–1929, 2002, doi: 10.1021/jm011095y.

Style guide should define:

- Order of the information
- Journal name: full or abbreviated?
- What to do if a journal article does not have page numbers
- Punctuation
- Italics
- Capital letters in titles or not
- Always know what kind of item you are citing: a book? a chapter? a journal article? or something else?

Tools you can use to stay organized during the writing process (dissertation, article)

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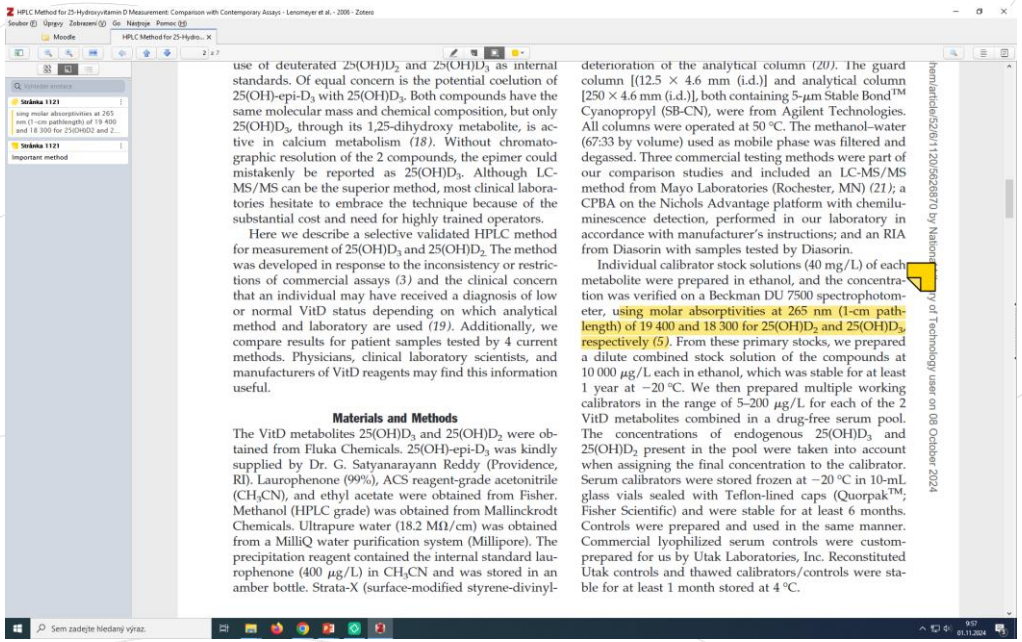
- Citation managers
  - Organize your references: folders, tags, linking of related references, storing full texts
    - Start organizing resources early and organize as you go
  - Possibilities to highlight, take notes in the full texts
  - Possibility to share group libraries with your team (at your institution or with other institutions)



use of deuterated 25(OH)D_2 and 25(OH)D_3 as internal standards. Of equal concern is the potential coelution of 25(OH)-epi-D_3 with 25(OH)D_3. Both compounds have the same molecular mass and chemical composition, but only 25(OH)D_3, through its 1,25-dihydroxy metabolite, is active in calcium metabolism *(18)*. Without chromatographic resolution of the 2 compounds, the epimer could mistakenly be reported as 25(OH)D_3. Although LC-MS/MS can be the superior method, most clinical laboratories hesitate to embrace the technique because of the substantial cost and need for highly trained operators.

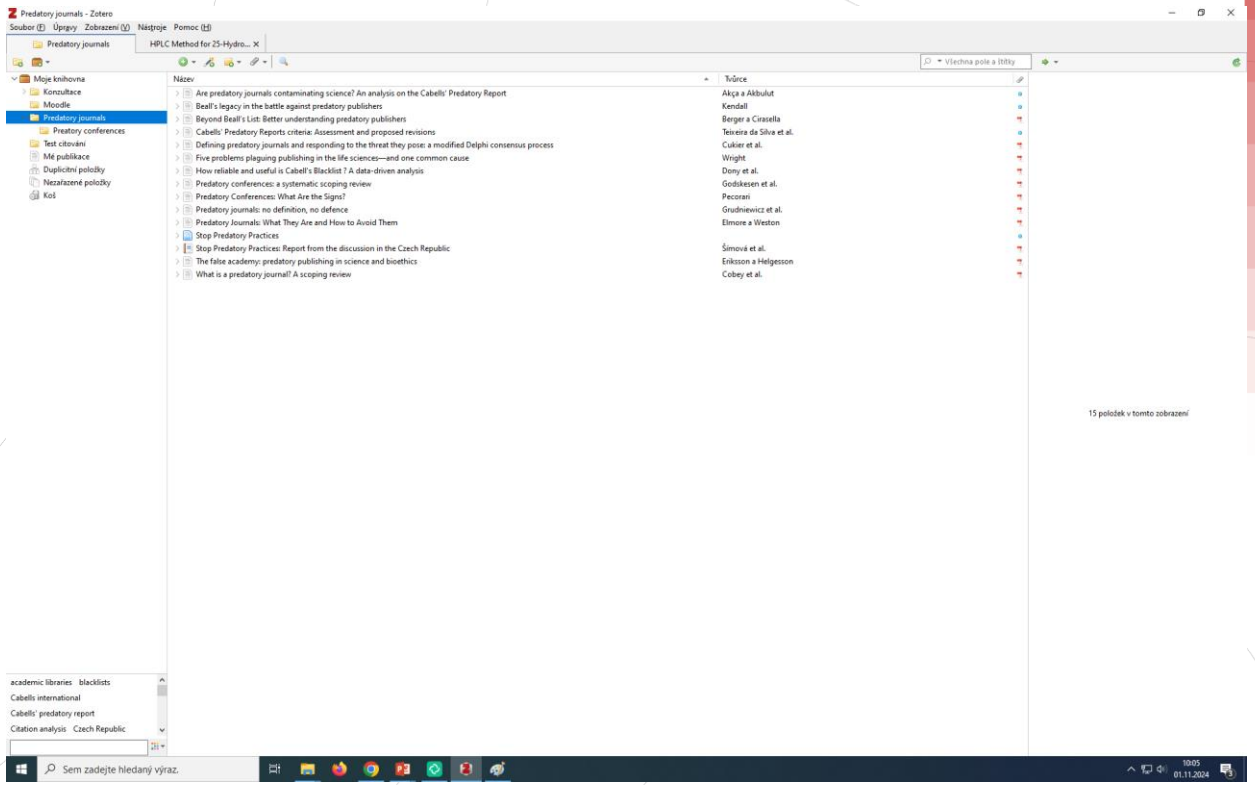
Here we describe a selective validated HPLC method for measurement of 25(OH)D_3 and 25(OH)D_2. The method was developed in response to the inconsistency or restrictions of commercial assays *(3)* and the clinical concern that an individual may have received a diagnosis of low or normal VitD status depending on which analytical method and laboratory are used *(19)*. Additionally, we compare results for patient samples tested by 4 current methods. Physicians, clinical laboratory scientists, and manufacturers of VitD reagents may find this information useful.

Materials and Methods

The VitD metabolites 25(OH)D_3 and 25(OH)D_2 were obtained from Fluka Chemicals. 25(OH)-epi-D_3 was kindly supplied by Dr. G. Satyanarayann Reddy (Providence, RI). Laurophenone (99%), ACS reagent-grade acetonitrile (CH_3CN), and ethyl acetate were obtained from Fisher. Methanol (HPLC grade) was obtained from Mallinckrodt Chemicals. Ultrapure water (18.2 MΩ/cm) was obtained from a MilliQ water purification system (Millipore). The precipitation reagent contained the internal standard laurophenone (400 μg/L) in CH_3CN and was stored in an amber bottle. Strata-X (surface-modified styrene-divinyl-

deterioration of the analytical column *(20)*. The guard column [(12.5 × 4.6 mm (i.d.)] and analytical column [250 × 4.6 mm (i.d.)], both containing 5-μm Stable Bond™ Cyanopropyl (SB-CN), were from Agilent Technologies. All columns were operated at 50 °C. The methanol–water (67:33 by volume) used as mobile phase was filtered and degassed. Three commercial testing methods were part of our comparison studies and included an LC-MS/MS method from Mayo Laboratories (Rochester, MN) *(21)*; a CPBA on the Nichols Advantage platform with chemiluminescence detection, performed in our laboratory in accordance with manufacturer's instructions; and an RIA from Diasorin with samples tested by Diasorin.

Individual calibrator stock solutions (40 mg/L) of each metabolite were prepared in ethanol, and the concentration was verified on a Beckman DU 7500 spectrophotometer, using molar absorptivities at 265 nm (1-cm pathlength) of 19 400 and 18 300 for 25(OH)D_2 and 25(OH)D_3, respectively *(5)*. From these primary stocks, we prepared a dilute combined stock solution of the compounds at 10 000 μg/L each in ethanol, which was stable for at least 1 year at −20 °C. We then prepared multiple working calibrators in the range of 5–200 μg/L for each of the 2 VitD metabolites combined in a drug-free serum pool. The concentrations of endogenous 25(OH)D_3 and 25(OH)D_2 present in the pool were taken into account when assigning the final concentration to the calibrator. Serum calibrators were stored frozen at −20 °C in 10-mL glass vials sealed with Teflon-lined caps (Quorpak™; Fisher Scientific) and were stable for at least 6 months. Controls were prepared and used in the same manner. Commercial lyophilized serum controls were custom-prepared for us by Utak Laboratories, Inc. Reconstituted Utak controls and thawed calibrators/controls were stable for at least 1 month stored at 4 °C.



Tools you can use to stay on top of things

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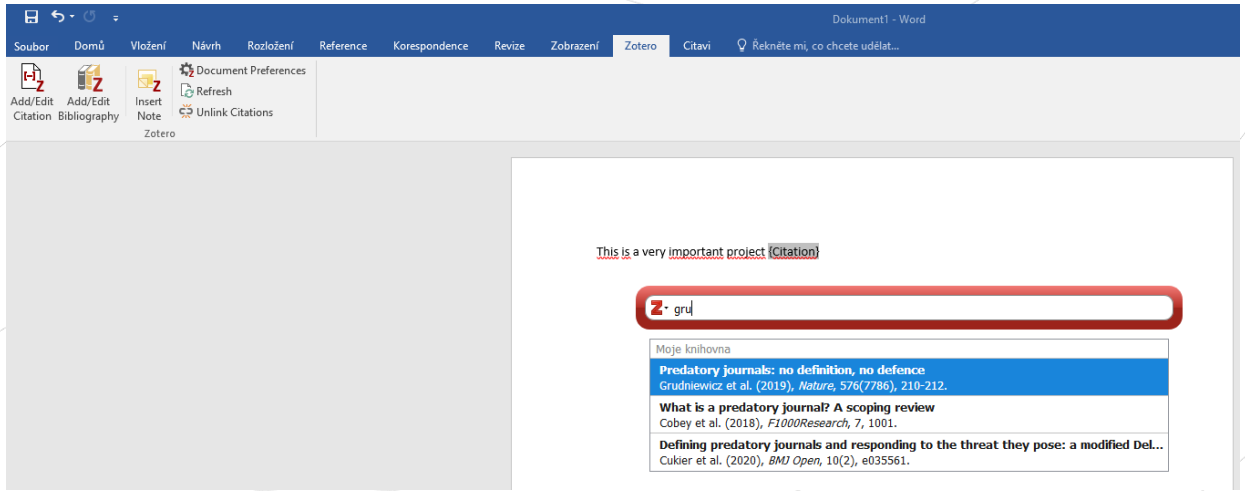
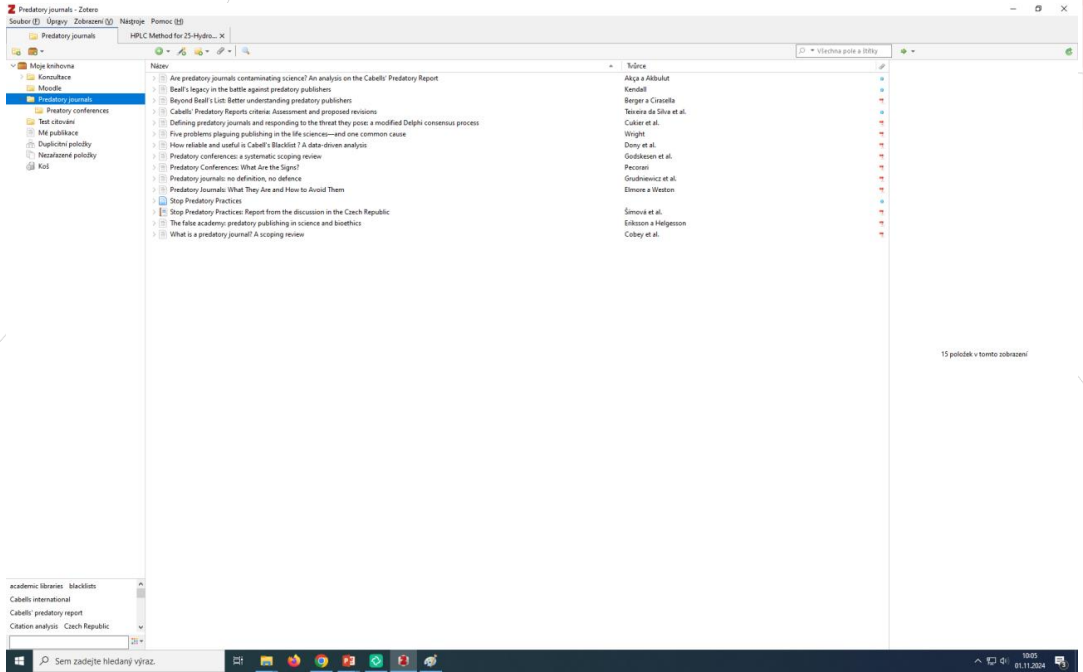
- Citation managers
  - Plug-ins for word processors → easy to create citations and bibliographies
  - Plug-ins for web browsers → easy to import citations and full texts, if possible
- But what you put in them is what you get (i.e., metadata is not perfect)
  - Academic database metadata is not perfect
  - Remember that LLM references are currently unreliable because many academic databases are not yet included in their searches; ITHAKA GenAI Tracker is monitoring integrations, but because it's a process involving lawyers and because some agreements are secret, it is (and will remain) difficult to tell exactly how "academic" an LLM is

    https://sr.ithaka.org/our-work/generative-ai-licensing-agreement-tracker/





Sample citation managers

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more on these two later

- Zotero
  - Free / open
- EndNote
  - Requires a license (license is provided for members of the UCT Prague and IOCB communities)
- Mendeley
  - People seem not that happy with latest versions
- CitacePro
  - Czech citation manager
  - Subscription provided via NTK/ChemTK
  - No desktop version
- Citavi
  - You must pay for this
- JabRef
  - Integrated with LaTeX

Zotero

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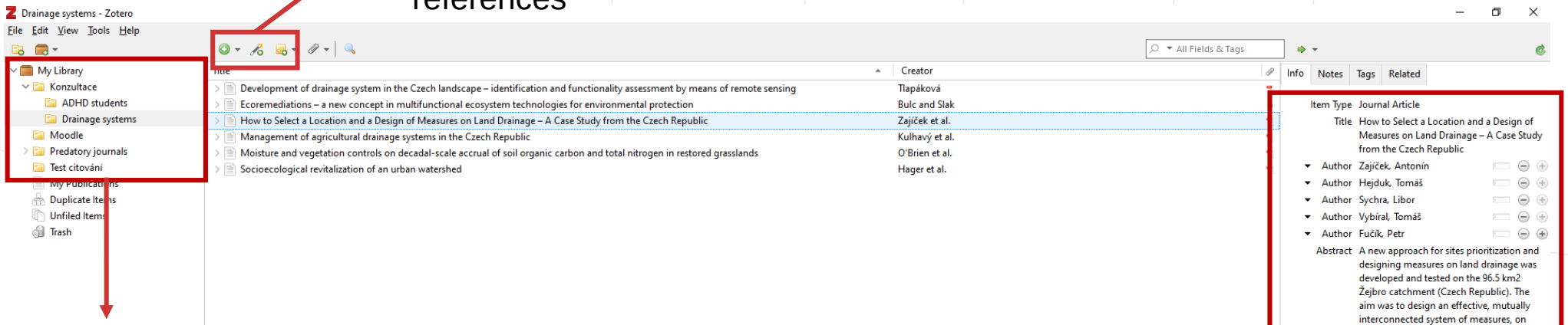
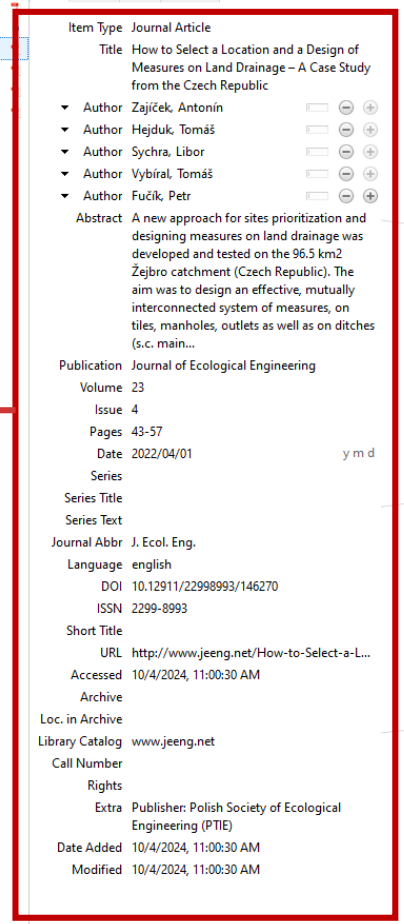
Various options for importing references

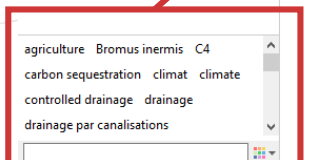


Folder system to organize resources (can be shared)

Editable item details



Tagging of resources



Zotero

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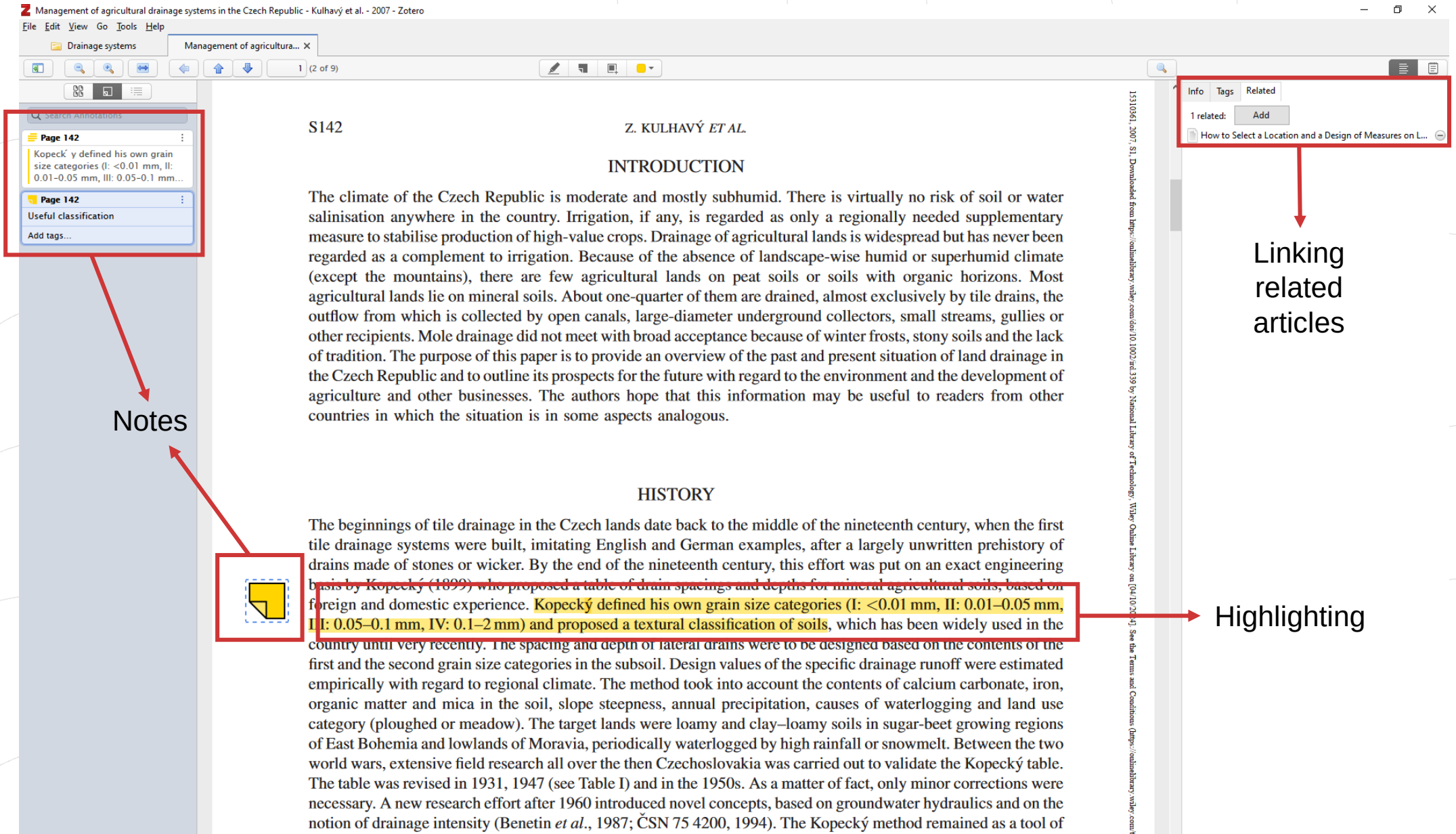

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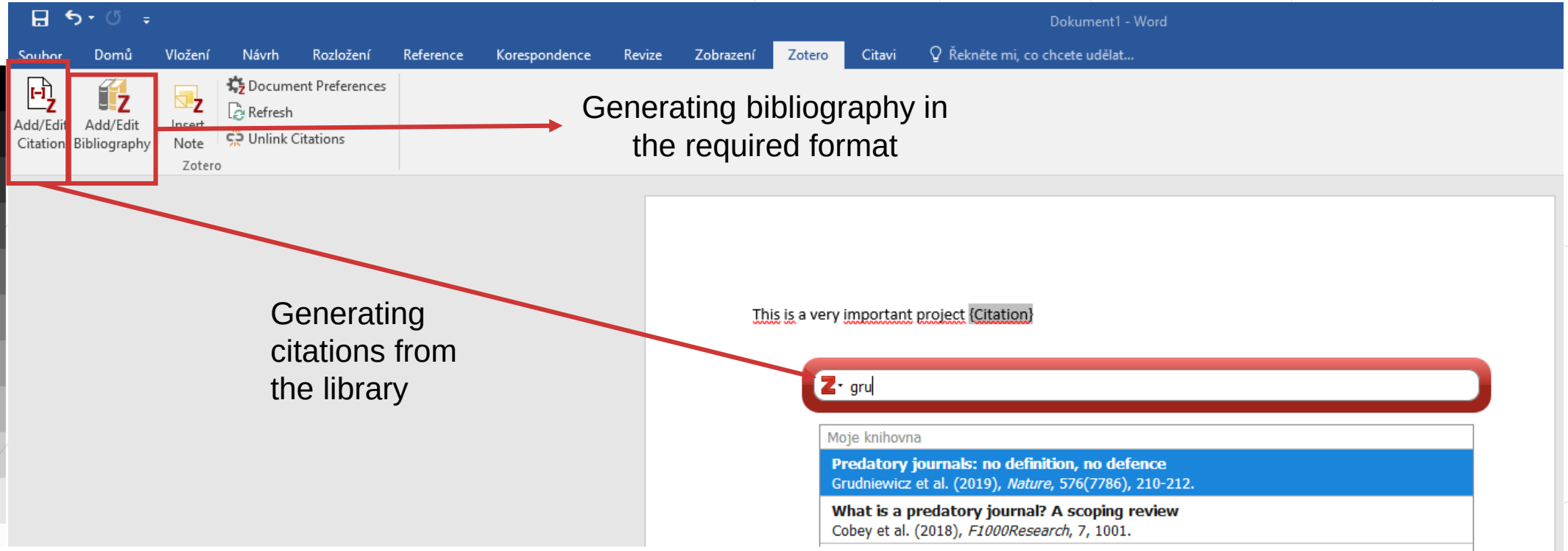
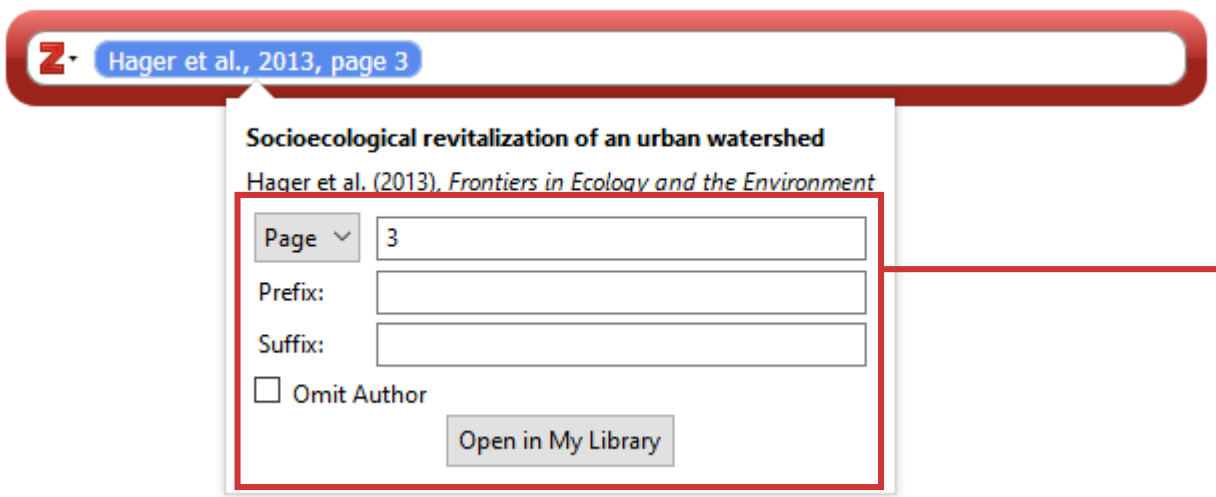


Generating bibliography in the required format

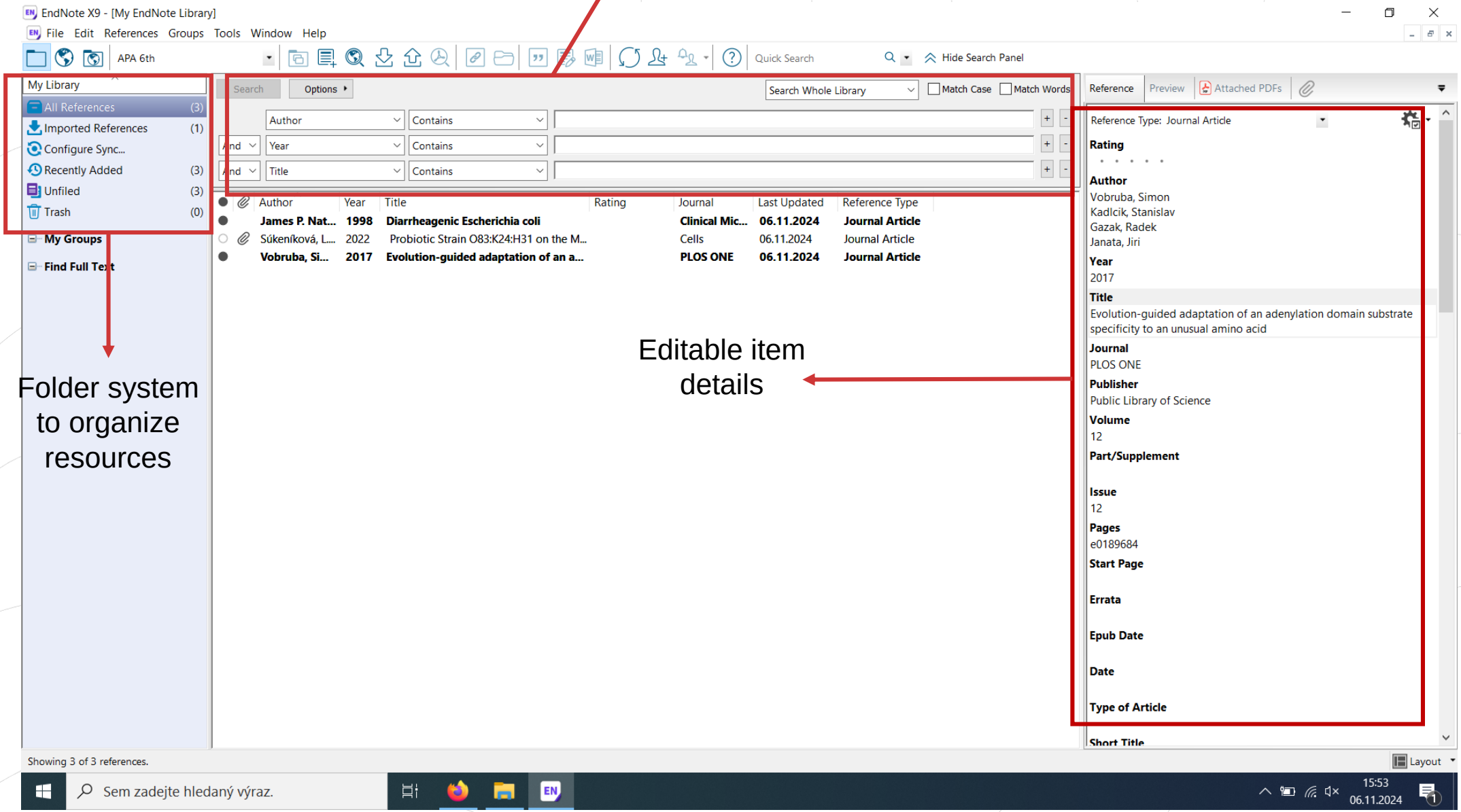
Generating citations from the library



Possibility to add a reference to specific part of the document, or to omit author name from the citation

EndNote

Can search references in many academic databases (eResources)



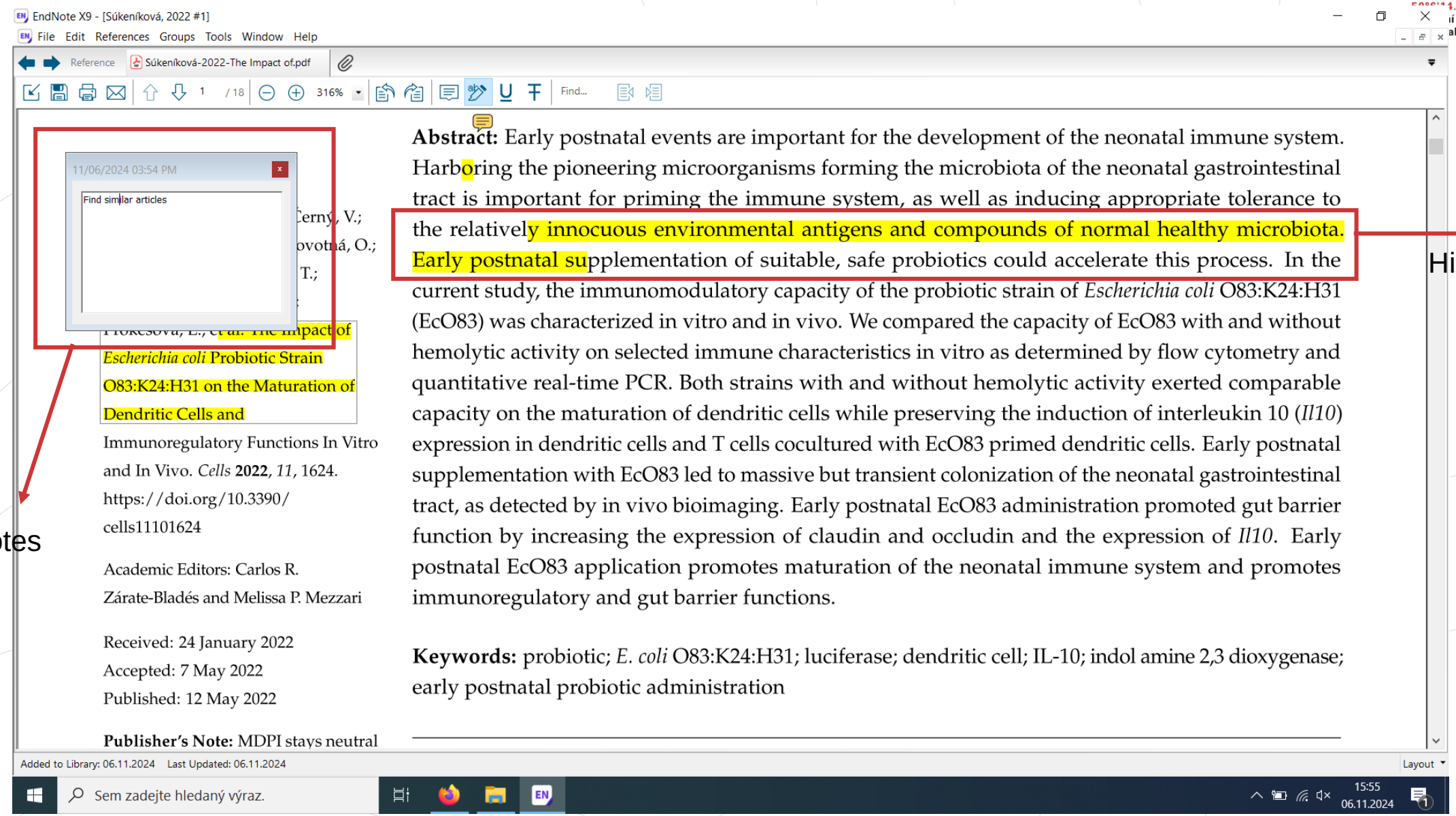
Folder system to organize resources

Editable item details

EndNote

Most journals offer export of references to a file that can be imported into the library

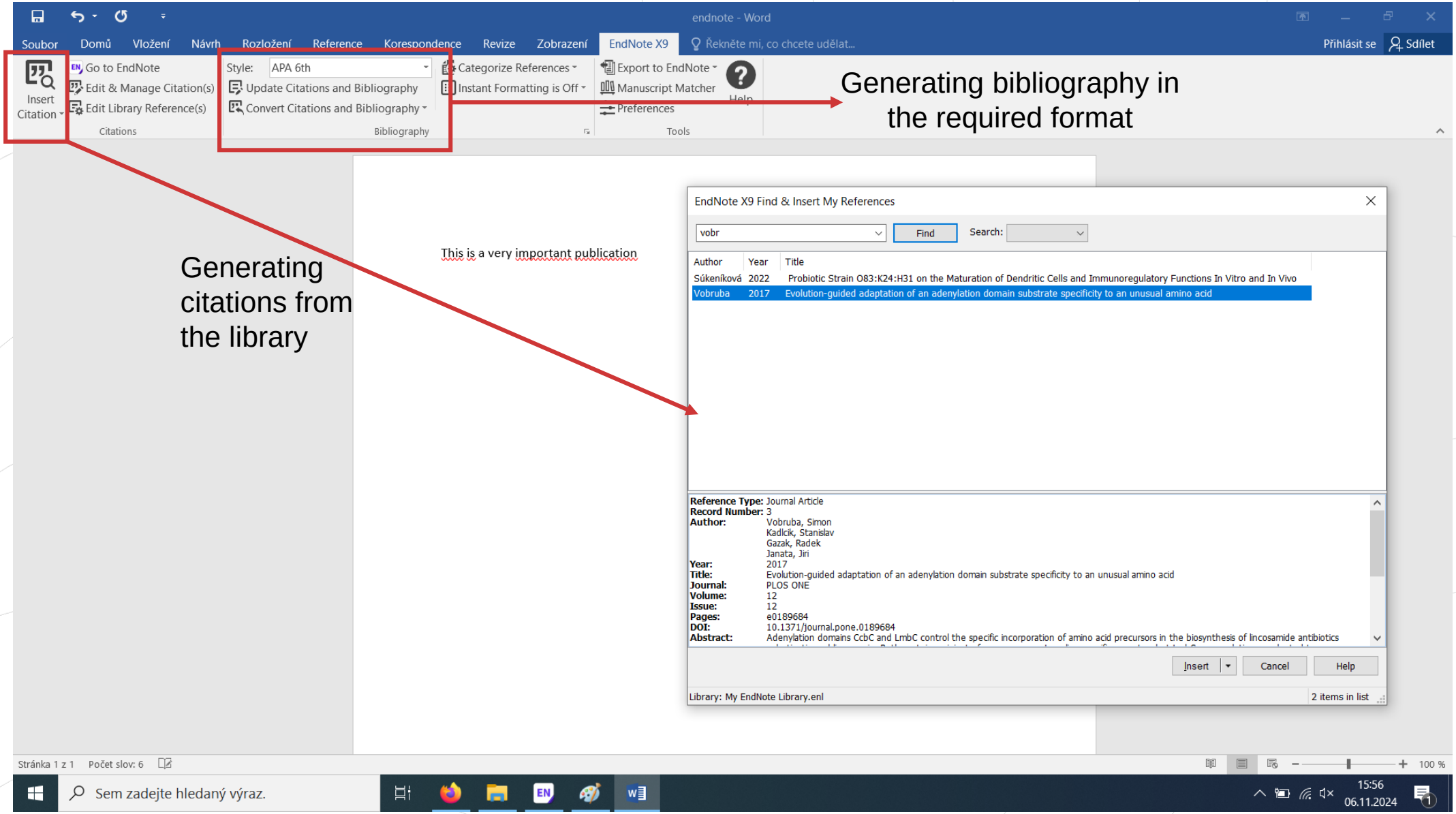
EndNote



Highlighting

Notes

EndNote


endnote - Word
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Generating citations from the library
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Title
Súkeníková 2022 Probiotic Strain O83:K24:H31 on the Maturation of Dendritic Cells and Immunoregulatory Functions In Vitro and In Vivo
Vobruba 2017 Evolution-guided adaptation of an adenylation domain substrate specificity to an unusual amino acid
Reference Type: Journal Article
Record Number: 3
Author: Vobruba, Simon
Kadlcik, Stanislav
Gazak, Radek
Janata, Jiri
Year: 2017
Title: Evolution-guided adaptation of an adenylation domain substrate specificity to an unusual amino acid
Journal: PLOS ONE
Volume: 12
Issue: 12
Pages: e0189684
DOI: 10.1371/journal.pone.0189684
Abstract: Adenylation domains CcbC and LmbC control the specific incorporation of amino acid precursors in the biosynthesis of lincosamide antibiotics
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Počet slov: 6
100 %
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06.11.2024

Where to find more information:

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- NTK citation guide
- STEMskiller
- YouTube:
  - How to Use Zotero (A Complete Beginner‘s Guide)
  - How to Use EndNote (A Complete Beginner‘s Guide)
- Schedule a consultation with us.

Learning outcomes:

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- I know what, why, and (generally) how to cite
- I understand what citation methods and styles are for and about
- I’ve learned about some tools I can use to make writing my research papers and dissertation easier
- I know where to look for additional help with citing

Contacts

Mgr. Barbora Vobrubová, Ph.D.
barbora.vobrubova@techlib.cz

Thank you

Questions?