



## Format your references in a click: The free Citation Style Constructor

The landscape of scientific publishing is characterized by a remarkable diversity of journals, each serving distinct disciplines and scholarly communities. A less visible, yet fundamentally crucial aspect of this ecosystem is the bibliographic style as the specific format for presenting references. From the American Chemical Society (ACS) and the Royal Society of Chemistry (RSC) to the Institute of Electrical and Electronics Engineers (IEEE), the American Psychological Association (APA), the Modern Language Association (MLA), and the Vancouver style, the number of distinct citation conventions is estimated to exceed one thousand. Such renowned publishers as Elsevier, Springer Nature, and Wiley further compound this complexity, as their style guidelines can vary significantly from one journal to another, even within the same publisher's portfolio. This diversity poses a logistical challenge for authors, reviewers, and editors, consuming valuable time and introducing a common source of manuscript formatting errors.

To navigate this bibliographic diversity, researchers have long relied on reference management software: EndNote, Zotero, Mendeley, Citavi, etc. These tools are indispensable for organizing literature and generating in-text citations and bibliographies; however, they are not without limitations. Many are commercial products with licensing costs, while others (though free) may offer restricted functionality or require subscriptions for advanced features, including collaborative libraries or extensive style repositories. Furthermore, a critical and often underappreciated gap exists in the domain of reference reformatting. An author may possess a manuscript with a bibliography formatted in one style (e.g., GOST) but need to submit it to a journal requiring another (e.g., ACS). While managers can create bibliographies from scratch, the automated, batch conversion of an unstructured reference list remains a significant hurdle. There are also online bibliographic data generators and converters, but they often suffer from standardization issues and lack sufficient customization details.

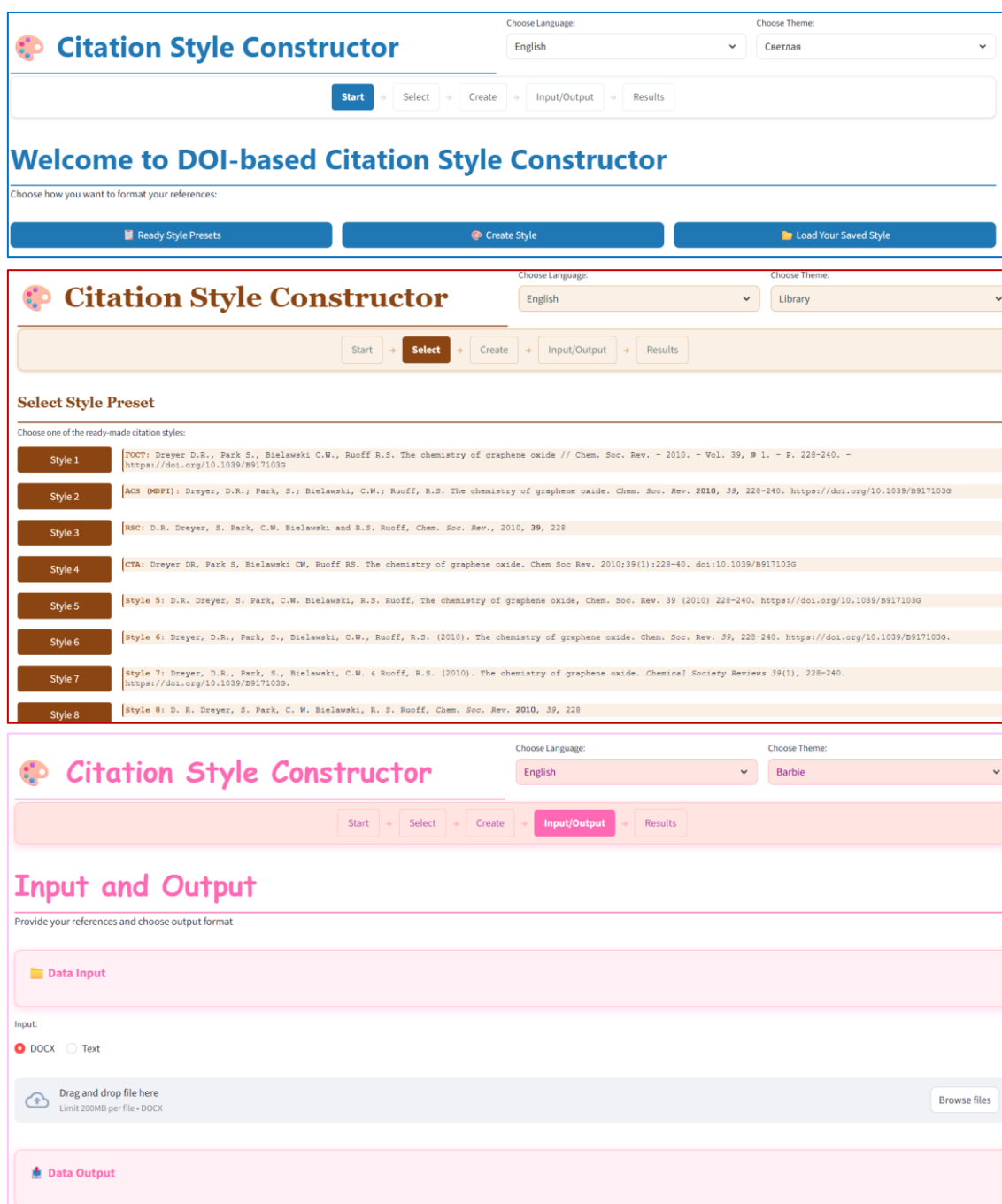
In response to these challenges, the editorial board of Chimica Techno Acta has developed a dedicated web-based solution: the Citation Style Constructor [1]. This application is offered as a fully open-access and free service, reflecting our commitment to lowering barriers in scholarly communication and supporting the research community with practical tools. The Citation Style Constructor pro-

vides authors with a flexible, powerful, and user-friendly tool for precisely reformatting reference lists.

The logic of the Citation Style Constructor is straightforward and powerful. It operates through a clear multi-stage workflow. First, users can either select from a curated set of ready-made style presets (including GOST, ACS (MDPI variant), RSC, and CTA) or engage in a detailed "constructor" mode, **Figure 1**. This mode allows for the meticulous customization of a citation style by defining the sequence, formatting (italic, bold, parentheses), and punctuation for each bibliographic element (authors, title, journal, year, volume, issue, pages, DOI). A real-time preview instantly visualizes the resulting format. Second, users input their existing reference list, either by pasting text or uploading a DOCX file. The application then processes this list, extracting bibliographic data and reformatting each entry according to the defined or selected style, allowing plain text (TXT) or a fully formatted Microsoft Word (DOCX) document to be downloaded.

One key feature that enhances long-term usability is integrated style management. Once a user has configured a custom style tailored to specific journal requirements (even if it is not covered by the default presets) the developed custom style can be exported as a JSON file. This file can be stored securely and imported later in a new session, allowing users to instantly apply the same precise formatting rules to new reference lists without reconfiguring settings manually. This feature ensures consistency and saves significant time for authors who frequently submit to the same set of target journals.

A standout feature that goes beyond basic reformatting is the integrated bibliometric analysis provided in the DOCX output. Upon processing, the application generates a "Stats" section that analyzes the processed reference list. This includes a frequency distribution of cited journals, a yearly distribution of publication dates, and a ranking of the most frequently cited authors. This analysis serves a dual purpose: (i) for the author, it offers a structured overview of their own bibliography composition and highlights potential over-reliance on sources or a lack of recent references; (ii) for reviewers and editors, it provides an objective snapshot of the manuscript scholarly grounding. In addition, the tool can flag warnings, such as suggesting the inclusion of more recent publications if the percentage of references from the last 3-4 years is low.



**Figure 1** Screens of various processing steps of the Citation Style Constructor.

The technical sophistication of the Citation Style Constructor lies in its nuanced handling of bibliographic metadata, a non-trivial task where many other tools can be worse. A primary innovation is its enhanced DOI discovery mechanism. Not all references contain explicit DOIs, especially in older manuscripts or those compiled from various sources. The application employs a multi-strategy approach: it first scans for explicit DOI strings or URLs. If none are found, it parses the full bibliographic record (author names, article title, journal, year, etc.) and queries the Crossref API using this "bibliographic fingerprint" to retrieve the correct DOI and associated metadata, **Figure 2**. This significantly increases the success rate for references where the DOI is absent from the text itself.

Another important feature is its accurate processing of journal name abbreviations, which are a frequent source of inconsistency. It integrates a version of the ISO-standard LTWA (List of Title Word Abbreviations) database. The algorithm accounts for complex journal titles, correctly handling suffixes ("A", "B", "C"), or Roman numerals (for example, Chemistry – A European Journal or Journal of Materials Chemistry A). It distinguishes between abbreviations that should remain uppercase (ACS, RSC) and those that should not, and intelligently removes common stop words ("the", "of", "and"). Users can select either full journal names (Journal of Materials Chemistry A), abbreviated names with periods (J. Mater. Chem. A), or abbreviated names without periods (J Mater Chem A).



**Figure 2** Processing a source without DOI in the bibliographic string.

The system incorporates advanced logic for handling special textual elements and ambiguous data. It removes common HTML/XML formatting tags (such as `<i>`, `<sub>`) that sometimes can pollute metadata fields. It features a smart duplicate detection system, generating a unique hash based on core metadata elements (author surnames, truncated title, journal, year, volume) to identify and flag duplicate entries, helping authors clean their bibliographies. A robust client-side caching layer stores successfully fetched DOI metadata, which dramatically speeds up processing for repeated documents and reduces load on public APIs.

From an architectural perspective, the application is designed for reliability and user convenience. The processing engine uses concurrent programming techniques to handle multiple DOI requests in parallel and provides

informative progress feedback with time-remaining estimates for large reference lists.

Despite these advanced features, it is important to acknowledge the application inherent limitations, which are primarily due to the state of the bibliographic data. The quality of the reformatting results is inextricably linked to the quality and completeness of the metadata recorded in Crossref or other sources. Inaccuracies in the original metadata (misspelled author names, incorrect journal titles, missing volume or issue numbers, or erroneous publication years) will naturally be reflected in the formatted results. The application cannot correct errors not present in the original DOI metadata. Additionally, while the bibliographic search is generally reliable, it may not yield effective results for every possible citation. This is particularly true for very new publications that have not

yet been fully indexed and for lesser-known sources located outside major databases.

Additional constraints involve the parsing of complex reference strings. References that are poorly structured, combine multiple entries in one line, or contain significant non-bibliographic text may not be parsed correctly. The application includes heuristics to skip common section headers (such as "REFERENCES" or "LITERATURE CITED"), but highly irregular input may require manual pre-cleaning. It is also important to note that the tool is specifically optimized for journal article references accessible via DOI. While it may successfully process some book chapters or conference proceedings with registered DOIs, its logic and abbreviation systems are primarily tailored to the periodical literature. Manual intervention is necessary for references to monographs, patents, or technical reports without DOIs. In such cases, the application clearly flags the reference for manual review and correction. These limitations are not flaws of the tool itself, but rather reflections of the broader challenges in global scholarly metadata management.

In conclusion, the Citation Style Constructor is a useful step toward simplifying a routine aspect of manuscript preparation. It goes beyond being a mere formatting utility by offering metadata enrichment, duplicate detection, bibliometric feedback, and practical style management. As a free, web-based, and highly customizable platform for reference reformatting, it streamlines the academic workflow, particularly for researchers working with submissions in multiple journals or collaborating with international teams that adhere to different bibliographic guidelines. The Citation Style Constructor empowers authors to achieve precise stylistic compliance without relying on expensive software or time-consuming manual editing. The editors of *Chimica Techno Acta* are pleased to sponsor this utility and warmly invite researchers, authors, and editors across all scientific disciplines to use the Citation Style Constructor for their bibliographic needs.

This editorial continues our previous efforts to support our authors in various aspects of manuscript preparation [1,2].

## References

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1. <https://citation-formatter.streamlit.app>
2. Medvedev D, Padnya P. Widespread and specific tips for creating a graph. *Chim Techno Acta*. 2025;12(2):122E1. doi:[10.15826/chimtech.2025.12.2.E1](https://doi.org/10.15826/chimtech.2025.12.2.E1)
3. Medvedev DA. Visualizing complexity: Infographic materials as complementary tools for data-rich articles. *Chim Techno Acta*. 2025;13(1):9515. doi:[10.15826/chimtech.9515](https://doi.org/10.15826/chimtech.9515)

Sincerely,  
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