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The title of your work

Student name

*MACH1, Promotion Romarin 2024, Avignon Université.**

First promoter and Second promoter
promoter affiliations

Third promoter
Another promoter affiliation
(Dated: February 6, 2026)

Graphical Abstract: 11.3 cm × 4.5 cm

This abstract contains placeholder text meant to approximate the length and tone of a realistic research article. We briefly introduce the scientific context, outline the question addressed, and summarize the approach used to investigate it. The study combines a simple theoretical model with a reproducible workflow for data acquisition, pre-processing, and statistical analysis, enabling direct comparison between multiple experimental or computational conditions.

Our main result is a consistent improvement of the target metric under the proposed configuration, with trends that remain robust to reasonable variations of hyperparameters and filtering choices. We additionally report qualitative observations that help interpret the quantitative outcome, including representative examples, uncertainty estimates, and a short discussion of potential confounding effects.

Finally, we highlight the practical implications of the findings and provide a concise perspective on limitations and future work. In particular, the proposed method is designed to be easy to implement, transparent to audit, and adaptable to related systems where similar constraints apply.

Keywords: Suggested keywords, Research article, Academic writing, Manuscript structure, Scholarly publishing, Scientific communication

Contents

1	Introduction	1	A	Supplementary information	3
2	Examples	2	B	Class options (REVT _E X and projectau)	3
2.1	Citations	2	1	projectau options and project-specific settings	3
2.2	Equations	2		References	4
2.3	Figures	2			
2.4	Table (booktabs)	2			
2.5	Chemistry notation	2			
2.6	Units and numbers (siunitx)	2			
3	Experimental section	2			
3.1	Material	2			
3.2	Methods	3			
4	Development	3			
5	Result ans discussion	3			
6	Conclusion	3			

1 Introduction

Provide a concise overview of the content and primary focus of your article. In practice, this section usually (i) introduces the scientific context, (ii) states the problem, and (iii) summarizes the approach and main findings. For instance, you may support a general statement with a single citation [1].

A second paragraph helps you check indentation, spacing, and line breaks across pages. You can also use it to announce the structure of the paper (e.g., experimental setup, results, and discussion) and to define any key terms or abbreviations used throughout the manuscript.

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Stage MACH2

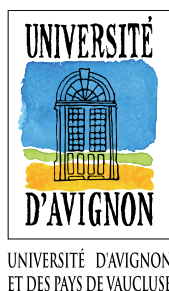


Figure 1. Former logo of Avignon Université.

2 Examples (equations, figures, table)

This short section is only here to test the layout. Equation (1) and Eq. (2) illustrate math typesetting, Fig. 1 (single column) and Fig. 2 (double column) test figure placement and captions, and Table I demonstrates a publication-quality table.

2.1 Citations

You can cite several references at once, for example [1–3]. A citation can also include optional text, e.g. [4, and references therein].

If author-year style commands are enabled by the bibliography and citation setup, you can cite authors directly in the sentence using `\citet{dummy2020}` or in parentheses with `\citep{dummy2020}`. Other useful commands are `\citeauthor{dummy2020}`, which writes the author of the citation, and `\citeyear{dummy2020}`, which writes the year of the citation.

Example (may depend on the selected citation style): Smith [1] discusses this topic. Related background can be found elsewhere [5]. We also reference Durand (2021) for a thesis-style source.

2.2 Equations

A short paragraph before an equation is useful to test line breaking and spacing. As a simple analytical chemistry example, the Beer–Lambert law links absorbance A to concentration c through the molar absorptivity ϵ and optical path length ℓ (see, e.g., [1, Chap. 2]).

$$A = \epsilon \ell c \quad (1)$$

A second paragraph after the equation helps visualize the vertical whitespace around display math. You can also test cross-references (Eq. (1)) and different citation patterns, for example multiple references in a single call [2, 3].

As a second example, we use a normalized Gaussian distribution. The first line defines $f(x)$, and the second checks the normalization by integration.

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{(x-\mu)^2}{2\sigma^2}\right), \quad (2)$$

$$\int_{-\infty}^{+\infty} f(x) dx = 1. \quad (3)$$

Table I. Example publication-quality table using `booktabs` and numeric alignment via `siunitx`.

Sample	C_0 (mgL ⁻¹)	Recovery (%)
S1	1.00	98.4
S2	2.50	9.21
S3	5.00	79.6

2.3 Figures

To reduce awkward float placement (and potential underfull/overfull boxes), it is often better to use widths relative to the current column (`\linewidth`) for single-column figures (see Fig. 1), and to the full page (`\textwidth`) for double-column figures (see Fig. 2).

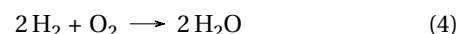
2.4 Table (booktabs)

For publication-quality tables, `booktabs` makes better tables by providing well-spaced horizontal rules: you can use `\toprule` for the header line, `\midrule` to separate header from body and between logical blocks within the table, and `\bottomrule` at the end of the table. As a rule of thumb, avoid vertical rules and double rules; let whitespace do the work.

2.5 Chemistry notation

The class loads `chemmacros`, so you can write chemical formulae with `\ch{...}`, for example H₂O, NaCl, H₃O⁺, H₂PO₄⁻ or isotopes such as ¹³C.

Reactions can be typeset in a compact form:



Equilibria and phase/charge annotations are also supported, e.g., CO₂ + H₂O \rightleftharpoons H₂CO₃ and Fe³⁺(aq); some shortcuts exist, such as e⁻ and pH.

2.6 Units and numbers (siunitx)

Use `siunitx` to format numbers and units consistently: 12345, 3.2 × 10⁻⁴, and 1.23(4). Common quantities can be written as 25 °C, 1.0 mmolL⁻¹, or 10 µg mL⁻¹. Ranges and lists are supported too: 400 nm to 700 nm and 1 mgL⁻¹, 2.5 mgL⁻¹ and 5 mgL⁻¹.

3 Experimental section

This section should be detailed enough for someone else to reproduce the work. In the final version, you can split it into subsections for samples, instrumentation, reagents, and data processing. Keep units consistent and report uncertainties when relevant.

3.1 Material

List all chemicals, standards, consumables, and instruments used in the study. For each reagent, you can indicate supplier, purity grade, and reference number when important. For instruments, give the model and manufacturer, plus any specific configurations.

Stage MACH2



Figure 2. Present logo of Avignon Université (full width).

3.2 Methods

Describe the experimental protocol step by step (sample preparation, calibration, acquisition parameters, and quality controls). Mention how many replicates were performed and how outliers (if any) were handled. If you used software, give the version and key settings.

4 Development

Use this section for bibliographic background and for the rationale behind your choices. You can compare several approaches from the literature, justify the selected method, and highlight what is new in your work [4].

A second paragraph is useful to test multi-paragraph layout: you may introduce a conceptual scheme, a reaction mechanism, or a workflow, then discuss its limitations and how you addressed them (controls, validation dataset, robustness checks). If you cite a web resource, it typically appears like this [5].

5 Result ans discussion

Present the main results using figures and tables, then interpret them. Start with a short summary of what is observed (trends, orders of magnitude), then discuss plausible explanations and compare with the literature [2].

In a second paragraph, comment on the reliability of the results (error bars, repeatability, detection limits) and on the practical implications. You can also cite a thesis as background or methodology support [3]. End the section by clearly stating the take-home message and what remains uncertain.

6 Conclusion

Conclude by restating the objective and the main findings in a few sentences. Mention the limitations and propose a short outlook (future experiments, applications, or improvements to the method). If relevant, include one sentence on how the work fits the broader context.

Acknowledgments

If you want to thank someone.

A Supplementary information

If you need to provide supplementary information that may be of interest, but is outside of the scope of the article, this is the place to be.

B Class options (REVT_EX and projectau)

This class is based on REVT_EX (revtex4-2; see CTAN). The projectau class forwards a curated subset of REVT_EX options and adds a few project-specific switches.

1 projectau options and project-specific settings

Options forwarded to REVT_EX. The following options can be given in the document class line, for example:

```
\documentclass[reprint, twoside,
showkeys]{projectau}
```

To keep the lines short (and readable), the options are grouped below:

- Layout/review:
 - reprint: one-column, draft-like layout.
 - reprint: journal-like, typically two-column layout.
 - linenumbers: print line numbers (useful for review).
- Sides:
 - onside: one-sided layout.
 - twoside: two-sided layout (mirrored margins and header behavior).
- Address/front matter (author–affiliation linking style):
 - superscriptaddress: affiliations keyed by superscripts.
 - groupedaddress: group authors sharing the same affiliation.
 - unsortedaddress: print affiliations without re-grouping.
 - runinaddress: run affiliations into the author block.
 - frontmatterverbose: more explicit front matter formatting.
- Bibliography notes / footnotes:
 - nofootinbib: keep footnotes out of the bibliography.
 - bibnotes: enable bibnotes (notes collected with bibliography).
 - nobibnotes: disable bibnotes.
- Drafting keys:

Stage MACH2

- `showkeys`: show citation keys in the margin output.
- `hidekeys`: hide citation keys.
- Journal preset (REVT_EX style preset):
 - `pra`, `prb`, `prl`, `rmp`.
- Citation style:
 - `numerical`: bracketed numerical citations.
 - `superscript`: superscript numerical citations.
- Floats:
 - `floatfix`: apply additional fixes for the placement of floats.

If you do not specify them, `projectau` applies the defaults `reprint`, `twoside`, `pra`, `numerical`, and `hidden keys`.

Font options (added by `projectau`). The class provides a convenient font switch via class options:

- Serif text+math:
 - `libertinus`, `newtx`, `kpfonts`
 - `mathpazo`, `fourier`, `stix2`
 - `fontdefault` (keep REVT_EX defaults)
- Sans setup (and optionally make sans the document default):

- `sourcesans`, `fira`, `helvet`
- `libertinussans`
- `sansdefault` (keep REVT_EX defaults)

Project metadata macros (set in the preamble). The class defines (and the main file overrides) a few macros used to build the Avignon Université header block. You typically customize them in the preamble with `\renewcommand`:

- Project strings:
 - `\formation`
 - `\promotion`
 - `\project`
 - `\projectname`
- Header graphics:
 - `\headerlogo` (path without extension)
 - `\headerlogoheight`
- Graphical table of contents:
 - `\TOC{<file>}`

Layout changes (geometry, header colors, section heading style, etc.), are centralized in the template `projectau.cls`, and are not supposed to be changed.

[1] A. Smith, *Handbook of Placeholder Chemistry*, 2nd ed. (Fictitious Press, Paris, 2020).

[2] J. Doe and M. Dupont, A minimal test reference for bibtex, *Journal of Example Results* **42**, 1 (2025).

[3] C. Durand, *Méthodes analytiques fictives pour la mise en page: une étude de cas*, Ph.D. thesis, Avignon Université, Avignon, France (2021).

[4] P. Martin and L. Nguyen, A conference paper with invented data for layout testing, in *Proceedings of the International Symposium on Examples* (Lyon, 2019) pp. 101–108.

[5] J. Roe, Online notes on sample formatting (dummy reference), <https://example.com> (2023), accessed: 2025-12-17.