A sample article title

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The abstract should summarize the contents of the paper. It should be clear, descriptive, self-explanatory and not longer than 200 words. It should also be suitable for publication in abstracting services. Formulas should be used as sparingly as possible within the abstract. The abstract should not make reference to results, bibliography or formulas in the body of the paper—it should be self-contained.

This is a sample input file. Comparing it with the output it generates can show you how to produce a simple document of your own.

Keywords: First keyword; second keyword

1. Introduction

This template helps you to create a properly formatted $\text{\LaTeX}\,2_\varepsilon$ manuscript. Prepare your paper in the same style as used in this sample .pdf file. Try to avoid excessive use of italics and bold face. Please do not use any $\text{\LaTeX}\,2_\varepsilon$ or $\text{\TeX}$ commands that affect the layout or formatting of your document (i.e., commands like `\textheight`, `\textwidth`, etc.).

2. Section headings

Here are some sub-sections:

2.1. A sub-section

Regular text.

2.1.1. A sub-sub-section

Regular text.

3. Text

3.1. Lists

The following is an example of an *itemized* list, two levels deep.

- This is the first item of an itemized list. Each item in the list is marked with a "tick." The document style determines what kind of tick mark is used.
- This is the second item of the list. It contains another list nested inside it.

  - This is the first item of an itemized list that is nested within the itemized list.
  - This is the second item of the inner list. LaTeX allows you to nest lists deeper than you really should.

  This is the rest of the second item of the outer list.
- This is the third item of the list.

The following is an example of an *enumerated* list of one level.

1. This is the first item of an enumerated list.
2. This is the second item of an enumerated list.

The following is an example of an *enumerated* list, two levels deep.

1. This is the first item of an enumerated list. Each item in the list is marked with a "tick." The document style determines what kind of tick mark is used.
2. This is the second item of the list. It contains another list nested inside of it.

   a) This is the first item of an enumerated list that is nested within.

   b) This is the second item of the inner list. LaTeX allows you to nest lists deeper than you really should.

   This is the rest of the second item of the outer list.
3. This is the third item of the list.

3.2. Punctuation

Dashes come in three sizes: a hyphen, an intra-word dash like "U-statistics" or "the time-homogeneous model"; a medium dash (also called an "en-dash") for number ranges or between two equal entities like "1–2" or "Cauchy–Schwarz inequality"; and a punctuation dash (also called an "em-dash") in place of a comma, semicolon, colon or parentheses—like this.

Generating an ellipsis . . . with the right spacing around the periods requires a special command.

4. Fonts

Please use text fonts in text mode, e.g.:

Roman
Italic
Bold
Small Caps
Sans serif
Typewriter

Please use mathematical fonts in mathematical mode, e.g.:

$ABCabc123$
$ABCabc123$
$\mathbf{ABCabc123}$
$\boldsymbol{ABCabc123\alpha\beta\gamma}$
$\mathcal{ABC}$
$\mathbb{ABC}$

```
ABCabc123
ABCabc123
𝔄𝔅ℭabc123
```

Note that `\mathcal,` `\mathbb` belongs to capital letters-only font typefaces.

5. Notes

Footnotes[1] pose no problem.[2]

6. Quotations

Text is displayed by indenting it from the left margin. There are short quotations

> This is a short quotation. It consists of a single paragraph of text. There is no paragraph indentation.

and longer ones.

> This is a longer quotation. It consists of two paragraphs of text. The beginning of each paragraph is indicated by an extra indentation.
>
> This is the second paragraph of the quotation. It is just as dull as the first paragraph.

7. Environments

7.1. Examples for `plain`-style environments

Axiom 1. *This is the body of Axiom 1.*

Proof. This is the body of the proof of the axiom above. □

Claim 2. *This is the body of Claim 2. Claim 2 is numbered after Axiom 1 because we used* [axiom] *in* \newtheorem.

Theorem 7.1. *This is the body of Theorem 7.1. Theorem 7.1 numbering is dependent on section because we used* [section] *after* \newtheorem.

Theorem 7.2 (Title of the theorem)**.** *This is the body of Theorem 7.2. Theorem 7.2 has additional title.*

Lemma 7.3. *This is the body of Lemma 7.3. Lemma 7.3 is numbered after Theorem 7.2 because we used* [theorem] *in* \newtheorem.

Proof of Lemma 7.3. This is the body of the proof of Lemma 7.3. □

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[1]This is an example of a footnote.
[2]Note that footnote number is after punctuation.

Table 1. The spherical case ($I_1 = 0$, $I_2 = 0$)

Equil. points	x	y	z	C	S
L_1	-2.485252241	0.000000000	0.017100631	8.230711648	U
L_2	0.000000000	0.000000000	3.068883732	0.000000000	S
L_3	0.009869059	0.000000000	4.756386544	-0.000057922	U
L_4	0.210589855	0.000000000	-0.007021459	9.440510897	U
L_5	0.455926604	0.000000000	-0.212446624	7.586126667	U
L_6	0.667031314	0.000000000	0.529879957	3.497660052	U
L_7	2.164386674	0.000000000	-0.169308438	6.866562449	U
L_8	0.560414471	0.421735658	-0.093667445	9.241525367	U
L_9	0.560414471	-0.421735658	-0.093667445	9.241525367	U
L_{10}	1.472523232	1.393484549	-0.083801333	6.733436505	U
L_{11}	1.472523232	-1.393484549	-0.083801333	6.733436505	U

Table 2. Sample posterior estimates for each model

Model	Parameter	Mean	Std. dev.	Quantile 2.5%	50%	97.5%
Model 0	β_0	-12.29	2.29	-18.04	-11.99	-8.56
	β_1	0.10	0.07	-0.05	0.10	0.26
	β_2	0.01	0.09	-0.22	0.02	0.16
Model 1	β_0	-4.58	3.04	-11.00	-4.44	1.06
	β_1	0.79	0.21	0.38	0.78	1.20
	β_2	-0.28	0.10	-0.48	-0.28	-0.07
Model 2	β_0	-11.85	2.24	-17.34	-11.60	-7.85
	β_1	0.73	0.21	0.32	0.73	1.16
	β_2	-0.60	0.14	-0.88	-0.60	-0.34
	β_3	0.22	0.17	-0.10	0.22	0.55

7.2. Examples for `remark`-style environments

***Definition* 7.4.** This is the body of Definition 7.4. Definition 7.4 is numbered after Lemma 7.3 because we used `[theorem]` in `\newtheorem`.

Example. This is the body of the example. Example is unnumbered because we used `\newtheorem*` instead of `\newtheorem`.

Fact. This is the body of the fact. Fact is unnumbered because we used `\newtheorem*` instead of `\newtheorem`.

8. Tables and figures

Cross-references to labeled tables: As you can see in Table 1 and also in Table 2.

Sample of cross-reference to figure. Figure 1 shows that it is not easy to get something on paper.
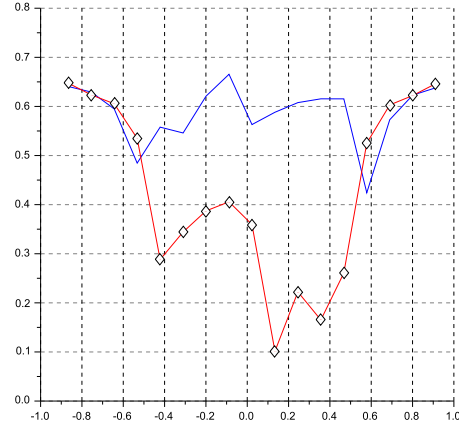
Figure 1. Pathway of the penicillin G biosynthesis.

9. Equations and the like

Two equations:

$$C_s = K_M \frac{\mu/\mu_x}{1 - \mu/\mu_x} \tag{1}$$

and

$$G = \frac{P_{\text{opt}} - P_{\text{ref}}}{P_{\text{ref}}} 100(\%). \tag{2}$$

Equation arrays:

$$\frac{dS}{dt} = -\sigma X + s_F F, \tag{3}$$

$$\frac{dX}{dt} = \mu X, \tag{4}$$

$$\frac{dP}{dt} = \pi X - k_h P, \tag{5}$$

$$\frac{dV}{dt} = F. \tag{6}$$

One long equation:

$$
\begin{aligned}
\mu_{\text{normal}} &= \mu_x \frac{C_s}{K_x C_x + C_s} \\
&= \mu_{\text{normal}} - Y_{x/s}\big(1 - H(C_s)\big)(m_s + \pi/Y_{p/s}) \\
&= \mu_{\text{normal}}/Y_{x/s} + H(C_s)(m_s + \pi/Y_{p/s}).
\end{aligned} \tag{7}
$$

Title

Appendices should be provided in {appendix} environment, before Acknowledgements.

If there is only one appendix, then please refer to it in text as ... in the Appendix.

Appendix A: Title of the first appendix

If there are more than one appendix, then please refer to it as ... in Appendix A, Appendix B, etc.

Appendix B: Title of the second appendix

B.1. First subsection of Appendix B

Use the standard LaTeX commands for headings in {appendix}. Headings and other objects will be numbered automatically.

$$\mathcal{P} = (j_{k,1}, j_{k,2}, \ldots, j_{k,m(k)}). \tag{8}$$

Sample of cross-reference to the formula (8) in Appendix B.

Acknowledgments

Funding

Supplementary Material

Title of Supplement A
Short description of Supplement A.

Title of Supplement B
Short description of Supplement B.

References

[1] Billingsley, P. (1999). *Convergence of Probability Measures*, 2nd ed. New York: Wiley.

[2] Bourbaki, N. (1966). *General Topology* **1**. Reading, MA: Addison–Wesley.

[3] Ethier, S. N. and Kurtz, T. G. (1985). *Markov Processes: Characterization and Convergence*. New York: Wiley.

[4] Prokhorov, Yu. (1956). Convergence of random processes and limit theorems in probability theory. *Theory Probab. Appl.* **1** 157–214.