Article Name

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Abstract

This is the abstract.

1. what is the study about?
2. what problem does it address?
3. how did you conduct the research?
4. what were the main findings?
5. why is it important?

Key words: keywordA, keywordB

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1. Introduction

Setting **global options** that apply to every chunk in the file.

````
```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = FALSE, message = FALSE, warning = FALSE)

library(here)
library(tidyverse)
library(kableExtra)

# displaying 20000 instead of 2 x 10^4
options(scipen = 999)
```
````

````
```{r}
# import data
data <- read_csv(here("data", "process", "newdata.csv"))
```
````

Ordered list items:

```
1. general information
1. research gap
1. research aim
```

The output is:

1. general information
2. research gap
3. research aim

2. Materials and methods

2.1. Adding figures

Add Fig. 1 here.

```{r boxplot, fig.cap='A boxplot', out.height="50%", fig.align='center'}
knitr::include_graphics(here::here("results", "figures", "boxplot.pdf"))
```

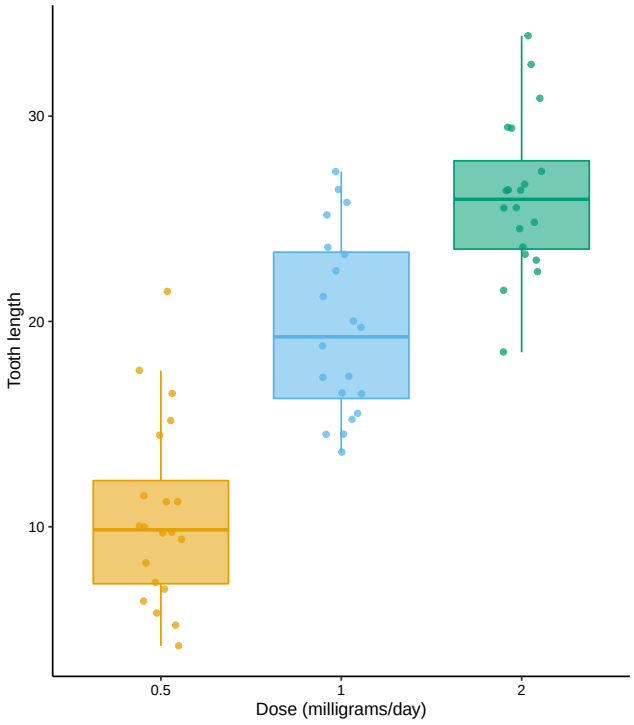

Figure 1: A boxplot

If the caption is too long (Fig. 2), use text-reference.

(ref:longcaption) This is a very long caption

```{r 2021, fig.cap='(ref:longcaption', out.width="50%", fig.align='center'}
knitr::include_graphics(here::here("results", "pictures", "2021.png"))
```

Table 1: Mean and Median

Supplement type	Median	Mean
OJ	22.7	20.66333
VC	16.5	16.96333

Figure 2: This is a very long caption

2.2. Adding tables

```
```{r table1}
data %>%
          group_by(supp) %>%
          summarise(median = median(len),
                    mean = mean(len)) %>%
    kable("latex",
          booktabs = T,
          col.names = c("Supplement type",
                    "Median",
                    "Mean"),
          align = "cll",
          caption = "\\label{tab:cooltable}Mean and Median")
```
```

```{r table2}
para = c("Intercept ($\\beta_0$)",
         "Parameter 1 ($\\beta_1$)",
         "Parameter 2 ($\\beta_2$)",
         "Hurdle probability ($\\theta$)")

tab <- data.frame(
    Parameter = para,
    Estimate = c(1.6, 1.2, 6.2, 0.5),
    Error = c(0.41, 0.02, 0.09, 0.07),
    CI = c("[0.698, 2.477]",
           "[1.123, 1.235]",
           "[6.051, 6.423]",
           "[0.353, 0.644]"),
    Rhat = c(rep("1.00", 4)))

kable(tab,
      "latex",
      align = "lcccc",
      booktabs = TRUE,
      escape = FALSE,
      caption = "\\label{tab:mathtable}A table with LaTeX Math symbols")
```

2.3. Adding equation

```
1. The _variable_ \(x\) and the __function__ \(f(x)\)
1. The *variable* $x$ and the **function** $f(x)$
1. superscript^2^
1. NO~2~, NO~3~, PO~4~, NH~4~
1. 25 µL
```

Table 2: A table with LaTeX Math symbols

Parameter	Estimate	Error	CI	Rhat
Intercept (β_0)	1.6	0.41	[0.698, 2.477]	1.00
Parameter 1 (β_1)	1.2	0.02	[1.123, 1.235]	1.00
Parameter 2 (β_2)	6.2	0.09	[6.051, 6.423]	1.00
Hurdle probability (θ)	0.5	0.07	[0.353, 0.644]	1.00

The output is:

1. The *variable* x and the **function** $f(x)$
2. The *variable* x and the **function** $f(x)$
3. superscript^2
4. NO_2, NO_3, PO_4, NH_4
5. 25 µL

Adding equations using the LaTeX syntax

```
\[Y|X \sim Bernoulli(p)\]
```

$$Y|X \sim Bernoulli(p)$$

```
\begin{equation}
\label{eq:cutoff}
p(x) = P(Y = 1|X = x) =
\left\{
    \begin{array}{lr}
          p_1 = P(Y = 1|X \le cp), & \text{if } x \le cp\\
          p_2 = P(Y = 1|X > cp), & \text{if } x > cp
    \end{array}
\right.
\end{equation}
```

$$p(x) = P(Y = 1|X = x) = \begin{cases} p_1 = P(Y = 1|X \leq cp), & \text{if } x \leq cp \\ p_2 = P(Y = 1|X > cp), & \text{if } x > cp \end{cases} \tag{1}$$

```
\begin{subequations}
  \label{eq:model}
  \begin{align}
  \label{eq:modela}
P(y|\theta, \lambda) =
\left\{
    \begin{array}{lr}
       \theta & \text{if } y = 0\\
       (1 - \theta) \frac{Poisson(y|\lambda)}{1 - PoissonCDF(0|\lambda)}
       & \text{if } y > 0
    \end{array}
\right. \\
  \label{eq:modelb}
logit(\theta) = \alpha_0 + \alpha_1 * x_1 + \alpha_2 * x_2 \\
  \label{eq:modelc}
log(\lambda) = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \nu
  \end{align}
\end{subequations}
```

$$P(y|\theta, \lambda) = \begin{cases} \theta & \text{if } y = 0 \\ (1 - \theta) \frac{Poisson(y|\lambda)}{1 - PoissonCDF(0|\lambda)} & \text{if } y > 0 \end{cases} \tag{2a}$$

$$logit(\theta) = \alpha_0 + \alpha_1 * x_1 + \alpha_2 * x_2 \tag{2b}$$

$$log(\lambda) = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \nu \tag{2c}$$

2.4. Cross-reference

- figure: `\ref{fig:label}`

- table: `\ref{tab:label}`
- equation: `\ref{eq:label}`
- section: `\ref{label}`

Note: only alphanumeric characters (`a-z`, `A-Z`, `0-9`), `-`, `/`, and `:` are allowed in labels.

```
1. Fig.\ref{fig:boxplot} and fig.\ref{fig:2021}
1. Table. \ref{tab:cooltable}
1. Equation \ref{eq:cutoff}, Eq. \ref{eq:model}, Eq. \ref{eq:modela}
1. Section \ref{intro} and section \ref{figure}
```

The output is:

1. Fig. 1 and Fig. 2
2. Table. 1
3. Equation 1, Eq. 2, Eq. 2a
4. Section 1 and section 2.1

2.5. Citation syntax

- `@Davis2009`: cite directly Davis et al. (2009)
- `[@Walls2018]`: put citations in parentheses (Walls et al., 2018)
- `[@Davis2009; @Walls2018]`: cite multiple entries (Davis et al., 2009; Walls et al., 2018)
- `[-@Liu2011a]`: suppress the mention of the author (2011)

3. Results

3.1. Use code inline

```
The maximum tooth length is `r max(data$len)`.
```

The maximum tooth length is 33.9.

3.2. Random things

- download `.csl` file at Zotero Style Repository
- *References* section is created at the end of the document by default. To put *References* section in a specific place (e.g. before Supplementary Materials):

```
# References

<div id="refs"></div>

# Supplementary Materials
```

- check spelling in rmarkdown: `F7`
- word count addin

4. Discussion

5. Conclusions

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT authorship contribution statement

Author One: Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Visualization, Writing - Original Draft, Writing - review & editing. **Author Two:** Supervision, Project administration, Funding acquisition, Conceptualization, Resources, Writing - Review & Editing. **Author Three, Author Four:** Investigation.

Further information here.

Acknowledgements

This work was supported by ...

References

Davis, T.W., Berry, D.L., Boyer, G.L., Gobler, C.J., 2009. The effects of temperature and nutrients on the growth and dynamics of toxic and non-toxic strains of Microcystis during cyanobacteria blooms. Harmful Algae 8, 715–725. https://doi.org/10.1016/j.hal.2009.02.004

Liu, X., Lu, X., Chen, Y., 2011. The effects of temperature and nutrient ratios on Microcystis blooms in Lake Taihu, China: An 11-year investigation. Harmful Algae 10, 337–343. https://doi.org/10.1016/j.hal.2010.12.002

Walls, J.T., Wyatt, K.H., Doll, J.C., Rubenstein, E.M., Rober, A.R., 2018. Hot and toxic: Temperature regulates microcystin release from cyanobacteria. Science of the Total Environment 610-611, 786–795. https://doi.org/10.1016/j.scitotenv.2017.08.149

A. Supplementary materials A

A.1. A cool figure

Fig.A.1 is in Supplementary materials.

Figure A.1: A plot in Supplementary Materials

A.2. An awesome table

Table.A.1 is in Supplementary materials.

Table A.1: This table again

Supplement type	Median	Mean
OJ	22.7	20.663
VC	16.5	16.963

B. Supplementary materials B

B.1. Some random code

Some random SAS code

```
PROC MCMC
    data=Data outpost=Dataoutput
        nbi=1000000
        nmc=1000000
        thin=10
        seed=1
        diag=all
        monitor=(p1 p2 cp I w);
```

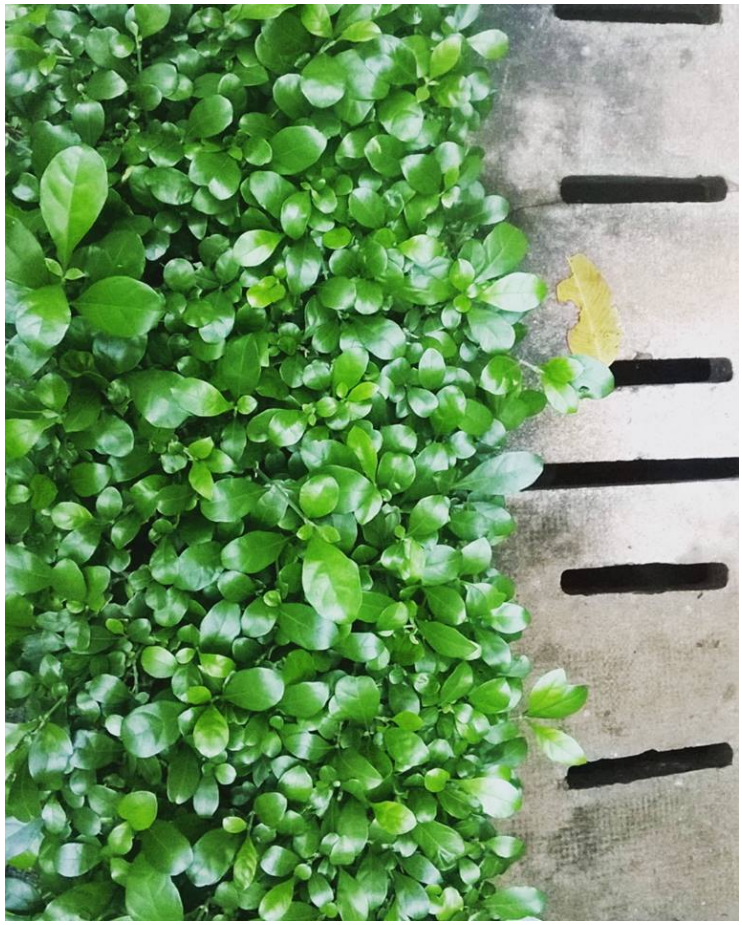

Figure B.1: A green photo

Highlights

Short collection of bullet points: novel results + new methods

- submitted: separate editable file -> online submission system.
- file name: 'Highlights'
- 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point)

Graphical abstract

Delete `eval=FALSE` before run the code chunk

Cover letter

New submission

Month Day, Year

Dear Dr. AAA,

I am happy to submit my manuscript, **article_name**, for your consideration at *journal_name*. This work *did sth interesting*. The main conclusion is that *sth cool*.

All of the authors have read and approved the paper and it has not been published previously nor is it being considered by any other peer-reviewed journal.

The manuscript has also been submitted to bioRxiv as a preprint.

Sincerely,

Author_name, PhD

Professor

Resubmissions

Month Day, Year

Dear Dr. BBB,

I am happy to resubmit my manuscript, **article_name**, for your reconsideration at *journal_name*. I am grateful to you and the reviewers who were very encouraging about the content of the manuscript.

I apologize for taking so long to resubmit.

Too many things got in the way over the past few months.

All of the authors have read and approved the paper and it has not been published previously nor is it being considered by any other peer-reviewed journal.

The manuscript was previously submitted to bioRxiv as a preprint.

Sincerely,

Author_name, PhD

Professor

Response to reviewers

Reviewer #1 (Comments for the Author):

copy the comment of the reviewer here

We have revised the sentence to the following: "sth you revised"

Reviewer #2 (Comments for the Author):

copy the comment of the reviewer here

Your response here

A great example here.