

BME Frontiers Rapid Report L^AT_EX Template

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Abstract

The abstract should not exceed 150 words and should not include citations or undefined abbreviations. Briefly state the objective, provide required background or context, then summarize the findings and main take-home message.

1 Introduction

The manuscript should start with a brief introduction that lays out the problem addressed by the research and describes the paper’s importance. The scientific question being investigated should be described in detail. The Introduction should provide sufficient background information to make the article understandable to readers in other disciplines and provide enough context to ensure that the implications of the experimental finding are clear.

Citations

Citations of references in the text should be identified using numbers in square brackets e.g., “as discussed by Cui [1]” or “as discussed elsewhere [1–5].” All references should be cited within the text and uncited references will be removed.

As an example, this template includes a “sample.bib” file containing the references in BibTeX.

Equations

Equations should be provided in a text format, rather than as an image. Equations should be numbered consecutively, in round brackets, on the right-hand side of the page by using the “\begin{equation}” command. They should be referred to as Equation 1, etc. in the main text.

For example, see Equation 1 and Equation 2 below.

$$a^2 + b^2 = c^2 \tag{1}$$

$$\begin{aligned} A &= \frac{\pi r^2}{2} \\ &= \frac{1}{2}\pi r^2 \end{aligned} \tag{2}$$

27 **Figures**

28 Figures should be called out within the text and numbered in the order of their citation in the text.
29 Every figure must have a descriptive title beginning with “Figure [Number] ...” All figure titles should be either a phrase or a sentence; do not mix the two styles. See Figure 1 for example.



Figure 1: This is an example figure.

30
31 Figures should be displayed on a white background. When preparing figures, consider that they
32 can occupy either a single column (half page width) or two columns (full page width), and should
33 be sized accordingly.

34 If a figure consists of multiple panels, they should be ordered logically and labelled with lower
35 case roman letters (i.e., a, b, c, etc.). All labels should be explained in the legend. See Figure 2 for
36 example.

37 Upon acceptance, authors will be asked to provide the figures as separate electronic files. Ac-
38 ceptable file types are Adobe Portable Document Format (PDF), PostScript (PS), or Encapsulated
39 PostScript (EPS) for illustrations or diagrams; Tagged Image File Format (TIFF), JPEG, PNG,
40 PhotoShop (PSD), EPS, or PDF for photography or microscopy. Bitmap (BMP) images should be
41 of at least 300 dpi resolution, unless due to the limited resolution of a scientific instrument. If a
42 bitmap image has labels, the image and labels should be embedded in separate layers.

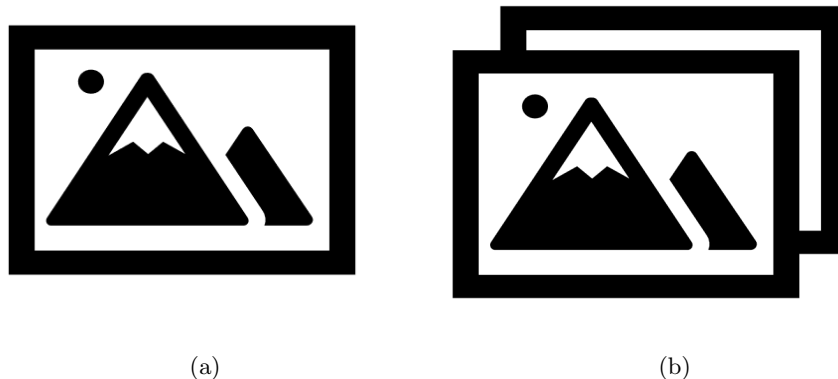


Figure 2: This is an example of a figure consisting of multiple panels. (a) This is the first panel. (b) This is the second panel.

43 Tables

44 Tables should supplement, not duplicate, the text. They should be called out consecutively within
45 the text and numbered in the order of their citation in the text.

46 Every table must have a descriptive title beginning with “Table [Number] . . .” as noted in Table
47 1. If numerical measurements are given, the units should be included in the column heading. Every
48 vertical column should have a heading, followed by a unit of measure (if any) in parentheses. Units
49 should not change within a column. Vertical rules should not be used.

50 Centered headings of the body of the table can be used to break the entries into groups. Do
51 not use footnotes in column heads; include any such details in sentence form in the table legend.
52 Footnotes should contain information relevant to specific cells of the table; use lowercase letters in
53 alphabetical order, as needed: a, b, c, etc.

54 2 Results and Discussion

55 Rapid Reports are short single-finding papers with a maximum of 2 data elements (figures or tables).
56 Thus, this section combines presentation of the data with its interpretation and conclusions drawn
57 about the results. The experiment or setting should be described, followed by an explanation of the
58 results. The findings should be integrated with the existing literature and other previously published
59 studies. Please avoid claims of priority or primacy. There should not be any subheadings. All data
60 must be shown either in the main text or in the Supplementary Materials; “data not shown” is

Table 1: This is an example table.

Column 1	Column 2	Column 3
Cell 1	Cell 2	Cell 3
Cell 4	Cell 5	Cell 6

61 not permitted. Rapid Reports should only include Supplementary Material for data that cannot be
62 presented in the main text, such as large data sets used for the analysis, movie files, or computer
63 code.

64 • • Data should be appropriately quantified from multiple independent experiments. Inclusion
65 of biological data from individual experiments that have not been repeated at least twice
66 is generally not permitted. However, validated individual studies are appropriate as Rapid
67 Reports, as are case studies.

68 • • Figures and tables should be called out in numerical order. Supplementary materials (for
69 example, Data S1, Movie S1) must also be called out in numerical order. Provide a title and
70 legend for all figures, tables, and items in the Supplementary Materials.

71 • • Mathematical expressions within a sentence of text should be created with ordinary charac-
72 ters; if this is not possible, then use MathType (or the equivalent). Only use MathType when
73 necessary — for example, characters with overbars or carets, with stacked superscripts and
74 subscripts, or within square root symbols.

75 **3 Materials and Methods**

76 The Materials and Methods section should provide sufficient information to allow replication of the
77 results. Where applicable, statistical methods should be described with enough detail for verification
78 of the results by a knowledgeable reader with access to the original data. Values for N, P, and the
79 specific statistical test performed for the experiments should be included in the figure or table legend
80 or main text.

81 **3.1 Animal and Human Studies**

82 Studies involving animals or humans should include separate sections with the subheadings “Ani-
83 mals and Study Approval” or “Subjects and Study Approval,” as appropriate for animal or human
84 research, respectively. All human studies must have been approved by the appropriate institutional
85 review board(s). The Subjects and Study Approval subsection must include a specific declaration
86 of such approval, including a statement indicating that written informed consent was received from
87 participants prior to inclusion in the study. For animal models, the Animals and Study Approval
88 subsection must include the precise genotype, strain, source, number of backcrosses, sex, and age of
89 animals. Additionally, all animal studies must have been approved by the appropriate institutional
90 review board(s). This subsection must include a specific declaration of such approval.

91 **Acknowledgments**

92 Anyone who made a contribution to the research or manuscript, but who is not a listed author,
93 should be acknowledged (with their permission). Types of acknowledgements include:

94 **General**

95 Thank others for any contributions, whether it be direct technical help or indirect assistance

96 **Author Contributions**

97 Describe contributions of each author to the paper, using the first initial and full last name.

98 Examples:

99 “S. Zhang conceived the idea and designed the experiments.”

100 “E. F. Mustermann and J. F. Smith conducted the experiments.”

101 “All authors contributed equally to the writing of the manuscript.”

102 **Funding**

103 Name financially supporting bodies (written out in full), followed by the funding awardee and asso-
104 ciated grant numbers (if applicable) in square brackets.

105 Example:

106 “This work was supported by the Engineering and Physical Sciences Research Council [grant
107 numbers xxxx, yyyy]; the National Science Foundation [grant number zzzz]; and a Leverhulme
108 Trust Research Project Grant.”

109 If the research did not receive specific funding, but was performed as part of the employment
110 of the authors, please name this employer. If the funder was involved in the manuscript writing,
111 editing, approval, or decision to publish, please declare this.

112 **Conflicts of Interest**

113 Conflicts of interest (COIs, also known as “competing interests”) occur when issues outside research
114 could be reasonably perceived to affect the neutrality or objectivity of the work or its assessment.

115 Authors must declare all potential interests – whether or not they actually had an influence – in a
116 ‘Conflicts of Interest’ section, which should explain why the interest may be a conflict. Authors must
117 declare current or recent funding (including for Article Processing Charges) and other payments,
118 goods or services that might influence the work. All funding, whether a conflict or not, must be
119 declared in a “Funding Statement.” The involvement of anyone other than the authors who 1) has
120 an interest in the outcome of the work; 2) is affiliated to an organization with such an interest; or 3)
121 was employed or paid by a funder, in the commissioning, conception, planning, design, conduct, or
122 analysis of the work, the preparation or editing of the manuscript, or the decision to publish must
123 be declared.

124 If there are none, the authors should state “The author(s) declare(s) that there is no conflict of
125 interest regarding the publication of this article.” Submitting authors are responsible for coauthors
126 declaring their interests. Declared conflicts of interest will be considered by the editor and reviewers
127 and included in the published article.

128 **Data Availability**

129 A data availability statement is compulsory for all research articles. This statement describes
130 whether and how others can access the data supporting the findings of the paper, including 1)
131 what the nature of the data is, 2) where the data can be accessed, and 3) any restrictions on data
132 access and why.

133 If data are in an archive, include the accession number or a placeholder for it. Also include any
134 materials that must be obtained through a Material Transfer Agreements (MTA).

135 **Supplementary Materials**

136 As single-finding studies, Supplementary Materials should be unnecessary for most Rapid Reports.
137 Only information that cannot be included in the main text should be presented as Supplementary
138 Materials. The Word file for the manuscript should include titles and captions for additional files
139 that are provided in the Supplementary Materials.

- 140 • All files should be described with a title and a legend.
- 141 • Any references cited in the Supplementary Materials must already appear in the reference list;
142 no separate supplementary reference list should be created.
- 143 • Supplementary Materials may include additional author notes — for example, a list of group
144 authors.
- 145 • Supplementary Materials should be listed in the following order: supplementary text or ma-
146 terials and methods, supplementary figures, supplementary tables, other supplementary files
147 (such as movies, data, interactive images, computer code, or database files), and references
148 only cited in the supplementary materials. Be sure to submit all Supplementary Materials
149 with the manuscript. Supplementary Materials should be named as follows:

150 Example:

151 Supplementary Text

152 Fig. S1. Title of the first supplementary figure.

153 Fig. S2. Title of the second supplementary figure.

154 Table S1. Title of the first supplementary table.

155 Data file S1. Title of the first supplementary data file.

156 Movie S1. Title of the first supplementary movie.

157 Computer Code S1. Title of the first supplementary computer code.

158 Audio S1. Title of the first supplementary movie.

159 **Guidelines for References**

160 There is only one reference list for all sources cited in the main text, figure and table legends, and
161 Supplementary Materials. Do not include a second reference list in the Supplementary Materials

162 section. References cited only in the Supplementary Materials section are not counted toward the
163 limit of 40 references.

- 164 • In the text, references should be numbered consecutively in the order of their first citation.
165 Citations of references in the text should be identified using numbers in square brackets e.g.,
166 “as discussed by Liu [9]”; “as discussed elsewhere [9, 10]”. All references should be cited within
167 the text and uncited references will be removed.
- 168 • Includes all authors (initials and last name), article title, journal title (or abbreviation), volume,
169 year of publication, and pages. For journals that do not use page numbers, include the article
170 number. For journals that do not use volume numbers, include the date of publication and
171 DOI. If available, include a DOI for each reference.
- 172 • For online resources that do not have a DOI, include full URL, title of the page, source of the
173 information, and date of access.
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175 accurate.
- 176 • Explanatory notes should be called out and cited separately and not be included as part of
177 another cited reference.
- 178 • Manuscripts should not include footnotes; information should be integrated into the text.

179 **References**

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