

nature

Guide to preparing the final figures

When preparing figures, authors are advised to refer to printed copies of *Nature* to get a sense of the general size and style points.

The aim of this guide is to show you the main things to look out for when submitting the final production-quality artwork.



For further help and advice, e-mail our art editors at art@nature.com

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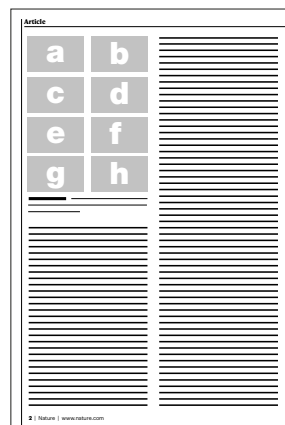
Figure sizing

Provide files at about the size they are to be printed. *Nature's* standard figure sizes are 89 mm (single column) and 183 mm (double column). The full depth of the page is 170 mm (approximate height so legend can fit underneath).

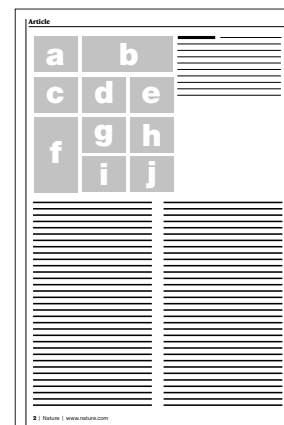
Figures can also be 120 mm where necessary.

Figure legends can be placed next to the figure (depending on length) when 120 mm, otherwise it is placed underneath.

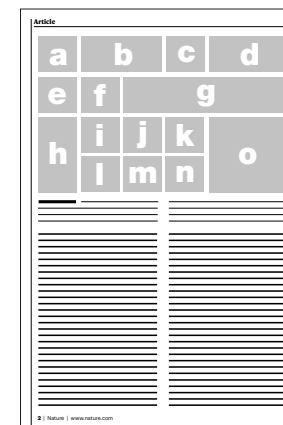
89 mm (single col)



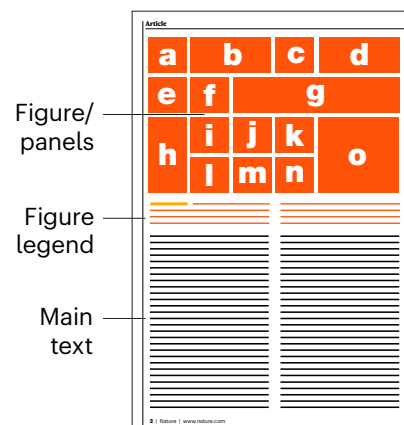
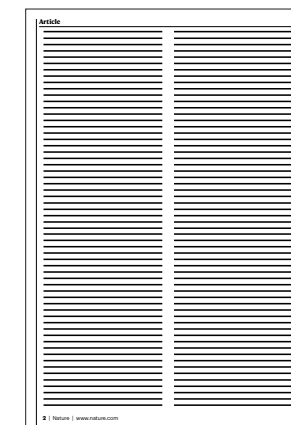
120 mm



180 mm (double col)



Approximately 1,300 words per page if there are no graphical elements



Figures

A 180 mm by 115 mm figure takes up approximately 550 words of space.

Legends

Below are some approximations of how much space legends take up.

- Single column of ~200 words (60 mm)
- Double column of ~400 words (60 mm)
- Double column of ~300 words (45 mm)



References

50 references take up approximately 900 words of space.

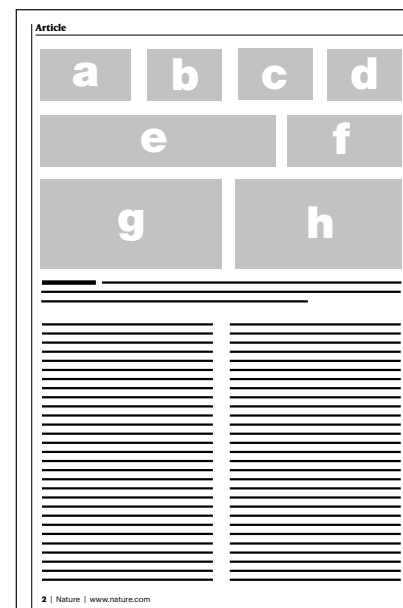
Panel arrangement

Try to keep white space to a minimum where possible.

Nature will be guided by your suggested layout of parts within figures, but may rearrange parts if necessary.

Essential layout features should be indicated when submitting – for example, particular alignments of panels within a figure.

Preferred



Needs better arrangement

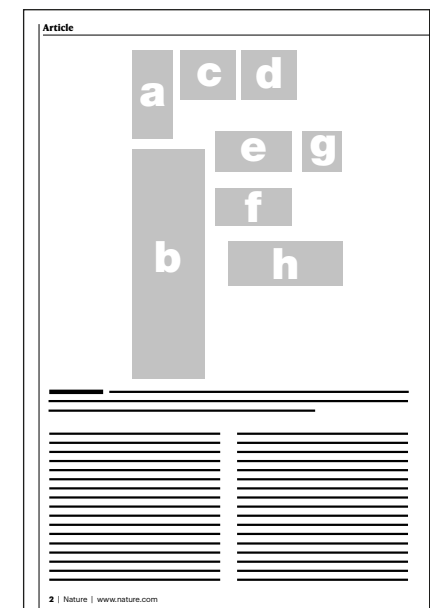


Table formatting

Add a horizontal rule above and below column headings and at the bottom of the table.

Tables can be set at one-column (89 mm) or two column (180 mm) width.

Use spaces rather than rules to separate blocks of data, but horizontal rules can be used to improve clarity in certain cases.

Colour is not permitted in main figure tables.

Tables should not exceed a single page (leaving enough room for any footnotes).

All text should be sans-serif typeface, preferably Helvetica or Arial and please use 7-pt text.

Heading	Heading	Heading	Heading
xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx

Footnote^{a b c d e f}

Footnotes can be used in table; alphabetical superscript letters are used.

File formats

Acceptable formats include:

AI, Vector EPS, layered psd (graphs must be smart vector), postscript, PDF, PowerPoint, Excel

We cannot use the following formats:

JPEG, TIFF, png, DeltaGraph, Tex, ChemDraw, Coral Draw, Canvas, Sigma Plot – convert these files to PDF, EPS or postscript format before submission.

Our art team need to make edits to text, lines, shapes, etc and therefore require everything on separate layers, including scale bar text in images.

Fonts and text

All text should be in a sans-serif typeface, preferably Helvetica or Arial, and not compressed horizontally nor vertically.

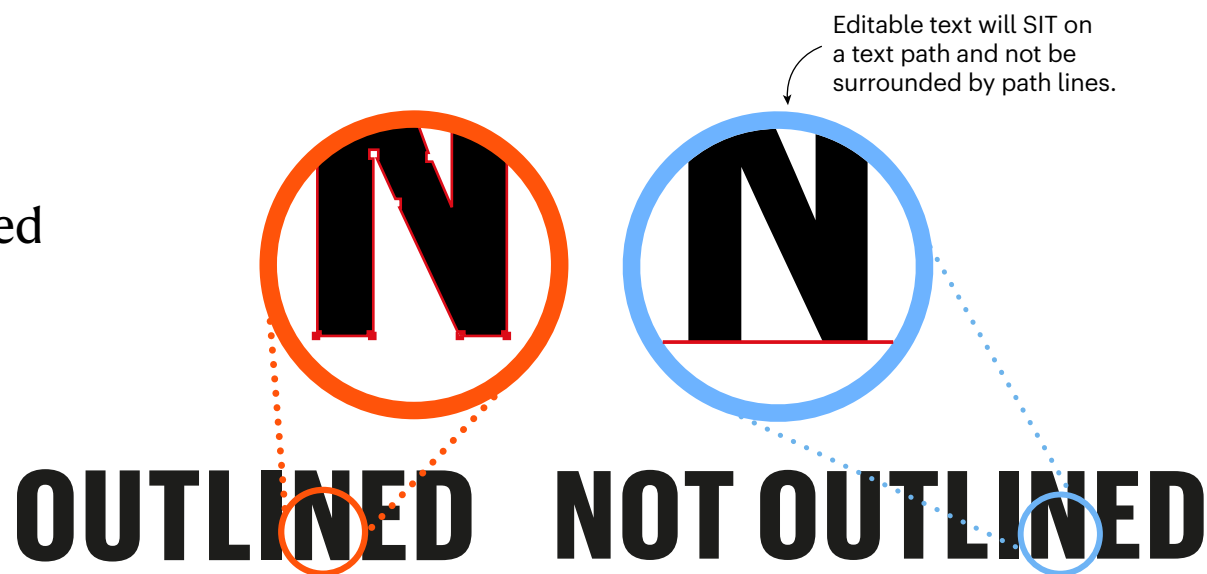
Amino acid sequences should be presented in one-letter code in Courier.

Do not rasterize or convert text to outlines; this will mean that the text isn't editable (see example).

Separate panels in multi-part figures should be labelled with 8-pt bold, upright (not italic) a, b, c, etc.

Maximum text size for all other text: 7 pt.

Minimum text size: 5 pt.



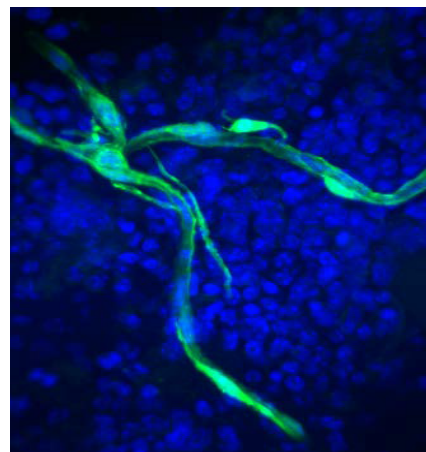
Colour

We recommend supplying your artwork in the **RGB colour spectrum**. This provides a wider gamut than the CMYK print format and allows more faithful reproduction of fluorescent colours when viewed digitally.

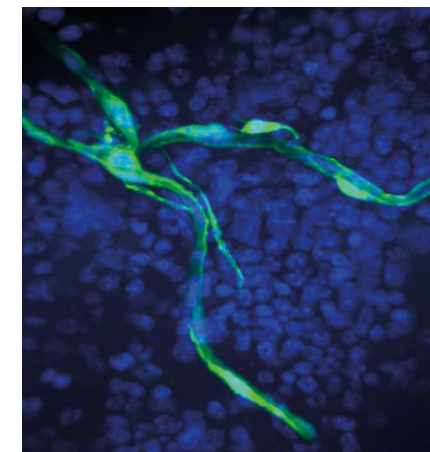
You can supply your artwork in CMYK instead, if you wish to ensure the printed figures are replicated faithfully.

The example on the right shows the shift in colour between RGB and the equivalent colour shown in CMYK; —subtle details are often lost during the conversion.

RGB (best for digital)



CMYK (best for print)



Your artwork will be automatically converted to CMYK to be printed in the journal but the online PDF will retain the RGB colour space.

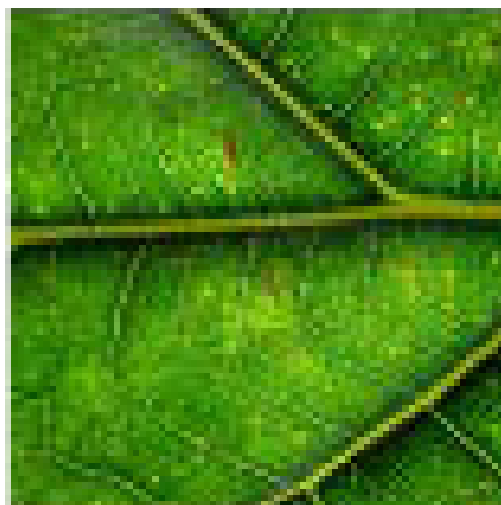
Resolution

All photographic images must be supplied at a **minimum of 300 dpi** at the maximum size they can be used. The maximum we can output in online proofs is 450 dpi.

Artificially increasing an image's resolution in an artwork program will not improve its quality.

The example shows the difference between a low-resolution image and the same image at 300 dpi (the differences are more apparent the further you zoom in).

72 dpi



300 dpi



Lower resolution means details are more difficult to see.

Vector versus raster

The best format for any particular figure depends partly on what sort of images it contains.

Images fall into two basic categories: rasterized images (flattened image) and line (or vector) art that is in a layered format.

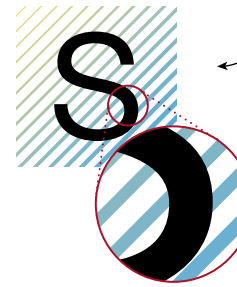
Do not rasterize line art or text in submitted figures.

Wherever possible please supply editable, unflattened vector artwork.

Rasterized

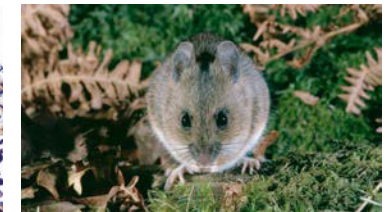
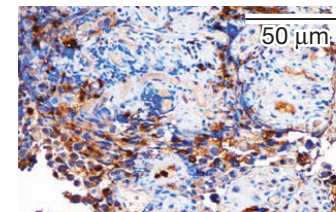
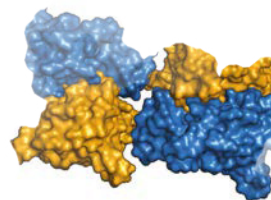


Vector



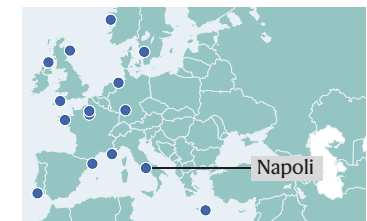
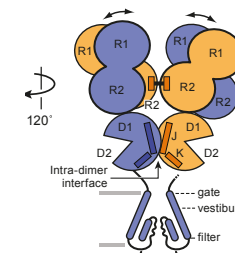
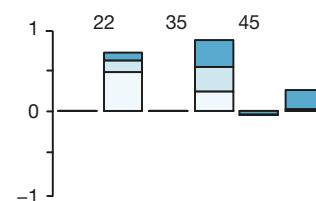
This example below shows the difference in quality between text and lines that have been rasterized and text and lines that are still editable.

Typical examples of raster artwork



Ensure that the scale bar and text are on a separate layer to the image.

Typical examples of vector artwork



Useful tips

Truetype

Text in figures can corrupt if the fonts were not embedded or are true type 3 instead of 2 or 42. Ensure that the fonts are Veranda, Arial, Helvetica or Times New Roman and embed the fonts with true type 2 or 42. We also have trouble opening figures made on Linux systems.

Do not choose the outline option.

Python and other software

If you are unsure whether your software can output editable text you are welcome to email us with what software was used to create these graphs and we may be able to advise in more detail. If you are using Python to create these graphs try using the following setting:

```
Matplotlib.rcParams['pdf-fonttype']=42
```

Useful links (clickable)

Creative commons images
[pexels.com](https://www.pexels.com)

Mathworks help

https://www.mathworks.com/help/matlab/creating_plots/saving-your-work.html

Mathplotlib exporting for publication

jonathansoma.com/lede/data-studio/matplotlib/exporting-from-matplotlib-to-open-in-adobe-illustrator/

Graphpad export vector

https://www.graphpad.com/guides/prism/latest/user-guide/exporting_to_journals.htm

Prism exporting graphs

www.graphpad.com/support/faq/tips-to-get-a-prism-graph-into-adobe-illustrator/

R exporting vector

rdrr.io/cran/export/man/graph2vector.html