

## Figures

To facilitate review, figures should be placed at the end of the manuscript (separated by section breaks). Each figure should be placed on a separate page, and identified by the manuscript number and figure number. Figure captions should be typed (double spaced) on a separate page.

- **Figure size.** Prepare figures at final size for publication. Figures should be prepared to fit one column (8.9 cm wide), 2 columns (14 cm wide), or full-page width (19 cm wide).
- **Font size.** Ensure that all type within the figure and axis labels are readable at final publication size. A minimum type size of 8 points (after reduction) should be used.
- **Fonts.** Use Helvetica and Times New Roman fonts only; use the symbol palette in Times to add symbols to figures and captions.
- **Line weight.** For line graphs, use a minimum stroke weight of 1 point for all lines. If multiple lines are to be distinguished, use solid, long-dash, short-dash, and dotted lines. Avoid the use of gray or shaded lines, as these will not reproduce well. Lines with different symbols for the data points may also be used to distinguish curves. Remove unnecessary backgrounds and grid lines from graphs.
- **Axis labels.** Each axis should have a description and a unit. Units may be separated from the descriptor by a comma or parentheses, and should be consistent within a manuscript.
- **Shading and fill patterns.** For bar charts, use different fill patterns if needed, e.g., black, white, gray, diagonal stripes. Avoid the use of multiple shades of gray, as they will not be easily distinguishable in print.
- **Symbols.** Identify curves and data points using the following symbols only: □, ■, ○, ●, ▲, ▼, △, ▽, ◇, ◆, +, and ×. Symbols should be defined in the figure caption or in a key on the figure (but not both).
- **File formats.** Figures can be submitted in Word, PDF, EPS, TIFF, and JPEG.
- **Grayscale figures.** If figures are to be reproduced in grayscale (black and white), submit in grayscale. Often color will mask contrast problems that are apparent only when the figure is reproduced in grayscale.
- **Color figures.** If figures are to appear in color in the print journal, files must be submitted in CMYK color (not RGB).
- **Resolution.** Minimum resolution is 300 dpi for color and grayscale figures, and 600 dpi for line art.
- **Photomicrographs.** Photomicrographs must have their unmagnified size designated, either in the caption or with a scale bar on the figure. Reduction for publication can make a magnification power designation (e.g., 100×) inappropriate.
- **Captions.** The caption should provide sufficient information that the figure can be understood without excessive reference to the text. All author-

derived abbreviations and symbols, including statistics, used in the figure should be defined in the caption.

- **General tips.** Avoid the use of three-dimensional bar charts, unless essential to the presentation of the data. Use the simplest shading scheme possible to present the data clearly. Ensure that data, symbols, axis labels, lines, and key are clear and easily readable at final publication size.

### **Color Charges**

The use of color in figures should be avoided unless it is essential to understanding the figure. The cost to publish each figure is \$995; a surcharge for reprints will also be assessed if reprints are ordered. Authors must indicate in writing that they are willing to pay the additional cost of color reproduction. Please complete and fax the Color Charge Agreement form (<http://japr.fass.org/misc/ifora.dtl>) to Journal Headquarters (217-378-4083).

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