Supplementary Materials of canvasDesigner

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Web URLs to tools and online user guide

Google Chrome (https://www.google.com/chrome) is recommended for optimal use of the web-based tools.

canvasXpress: https://canvasxpress.org

canvasXpress download: https://canvasxpress.org/html/download.html

canvasXpress R source code: https://github.com/neuhausi/canvasXpress

canvasXpress user interface: https://canvasxpress.org/html/user-interface.html

canvasXpress example of violin plot: https://baohongz.github.io/canvasDesigner/violin.html

canvasDesigner: https://baohongz.github.io/canvasDesigner

canvasDesigner source code: https://github.com/baohongz/canvasDesigner

canvasDesigner demo video: https://baohongz.github.io/canvasDesigner/demo_video.html

canvasDesigner demo #1: all SVG files are generated by canvasXpress.

https://baohongz.github.io/canvasDesigner/demo1.html

https://baohongz.github.io/canvasDesigner/demo1_saved.html (Result of "Save as HTML")

canvasDesigner demo #2: mixed SVG files from canvasXpress and other sources.

https://baohongz.github.io/canvasDesigner/demo2.html

https://baohongz.github.io/canvasDesigner/demo2_saved.html (Result of "Save as HTML")

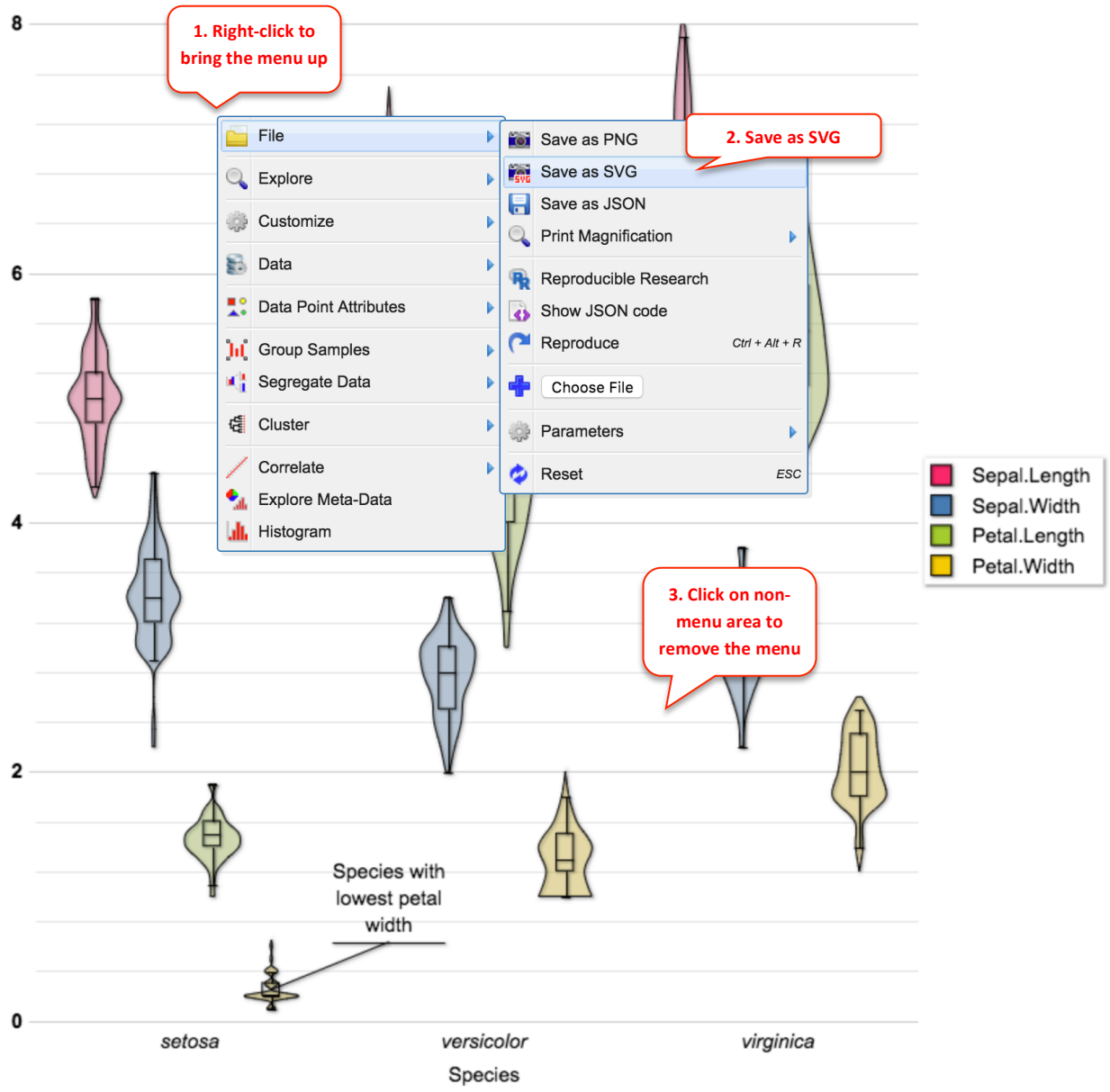
Example SVG files: https://github.com/baohongz/canvasDesigner/tree/gh-pages/SVG

Inkscape: Edit SVG files, convert image files in other formats to SVG format. https://inkscape.org

SVGOMG: Optimize SVG files. https://jakearchibald.github.io/svgomg

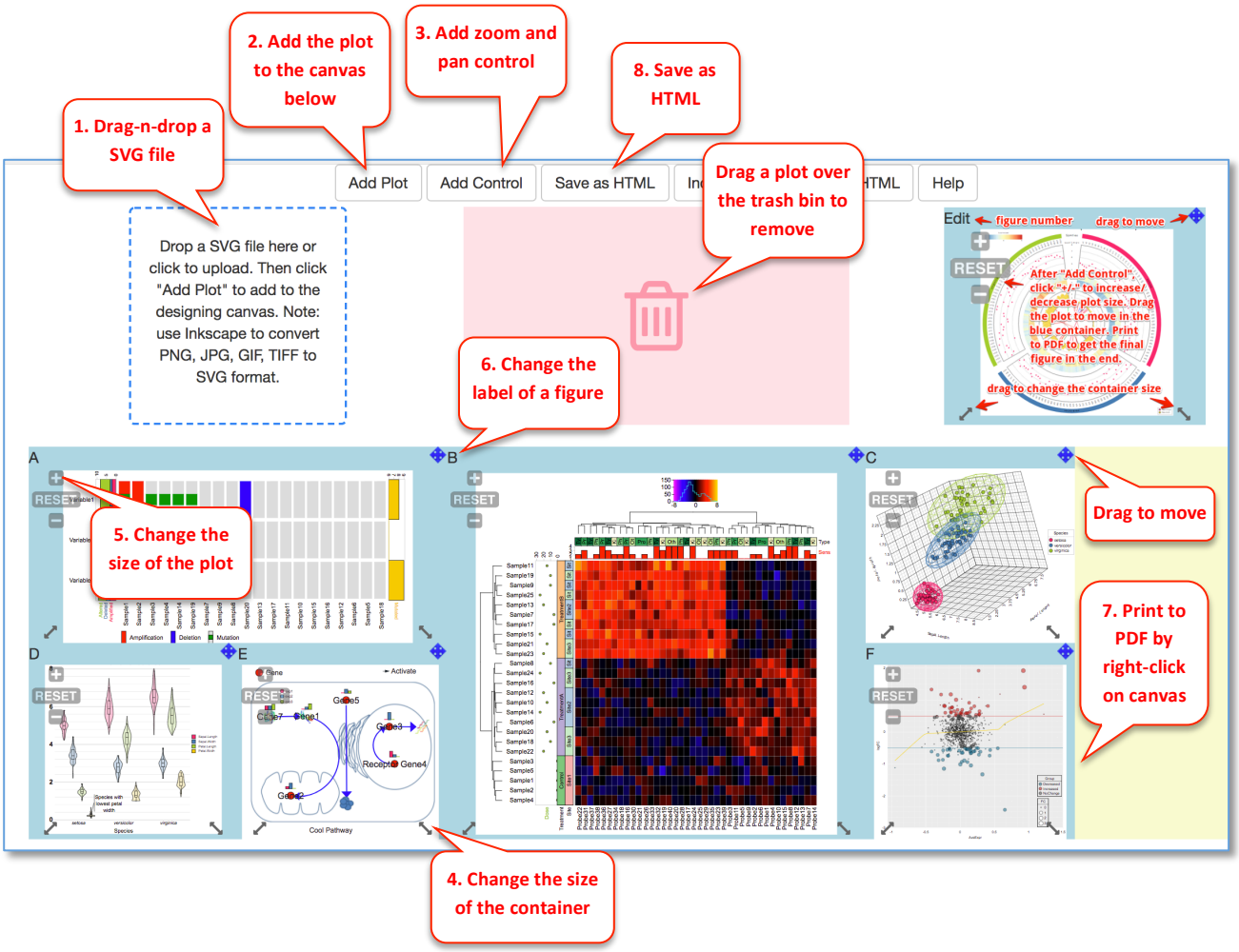
SVG (Scalable Vector Graphics) files generated by canvasXpress

All plots generated by canvasXpress can be saved as SVG file by following the menu as shown in the example. (https://baohongz.github.io/canvasDesigner/violin.html)



Layout multiple SVG files by canvasDesigner

The HTML based tool https://baohongz.github.io/canvasDesigner can easily arrange multiple plots in SVG format exported by canvasXpress or other tools. Each individual plot could be adjusted in size and positioned freely on the canvas.



canvasDesigner demo video: https://baohongz.github.io/canvasDesigner/demo_video.html

canvasDesigner demo #1: all SVG files are generated by canvasXpress.

https://baohongz.github.io/canvasDesigner/demo1.html

https://baohongz.github.io/canvasDesigner/demo1_saved.html (Result of "Save as HTML")

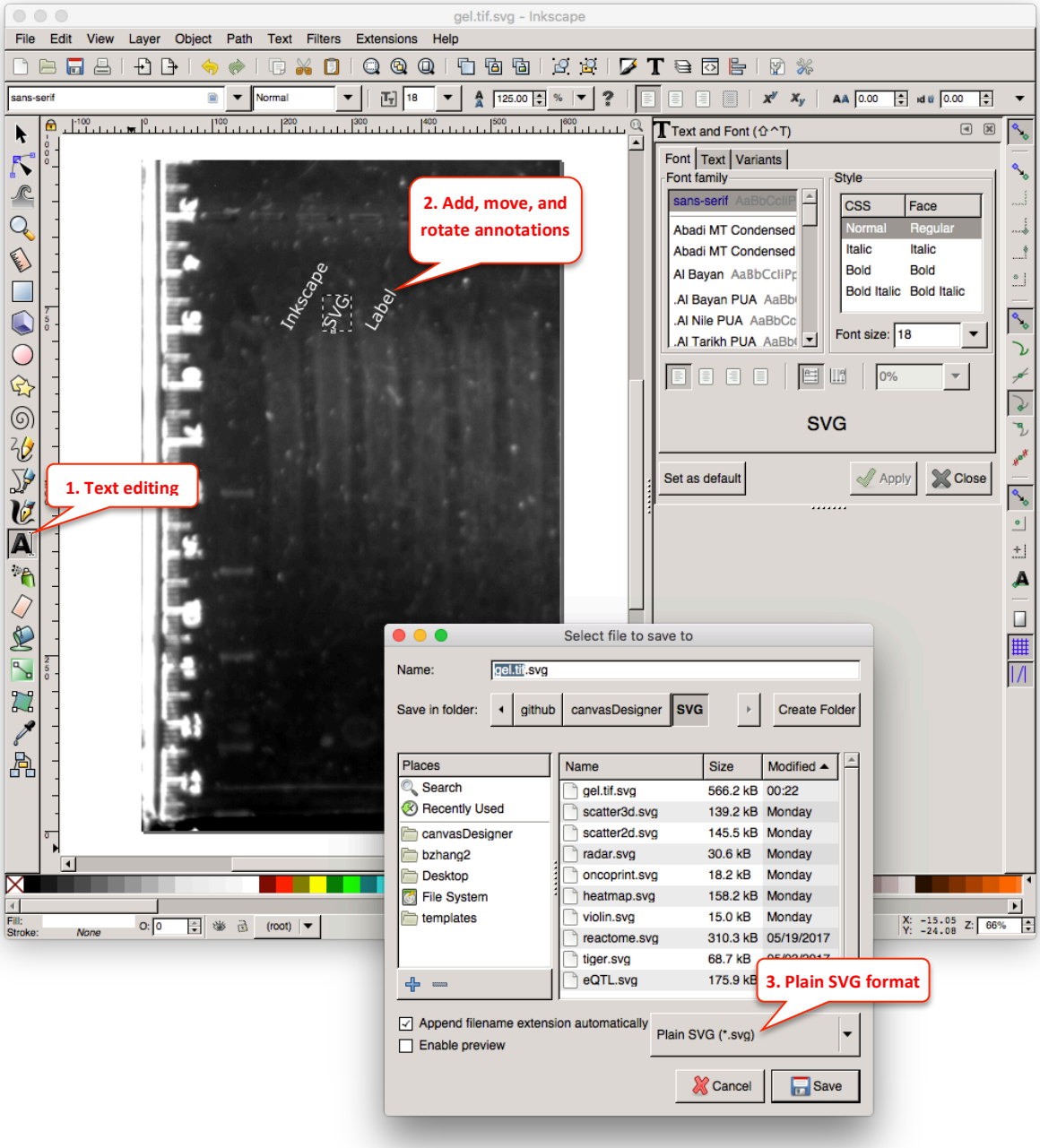
canvasDesigner demo #2: mixed SVG files from canvasXpress and other sources.

https://baohongz.github.io/canvasDesigner/demo2.html

https://baohongz.github.io/canvasDesigner/demo2_saved.html (Result of "Save as HTML")

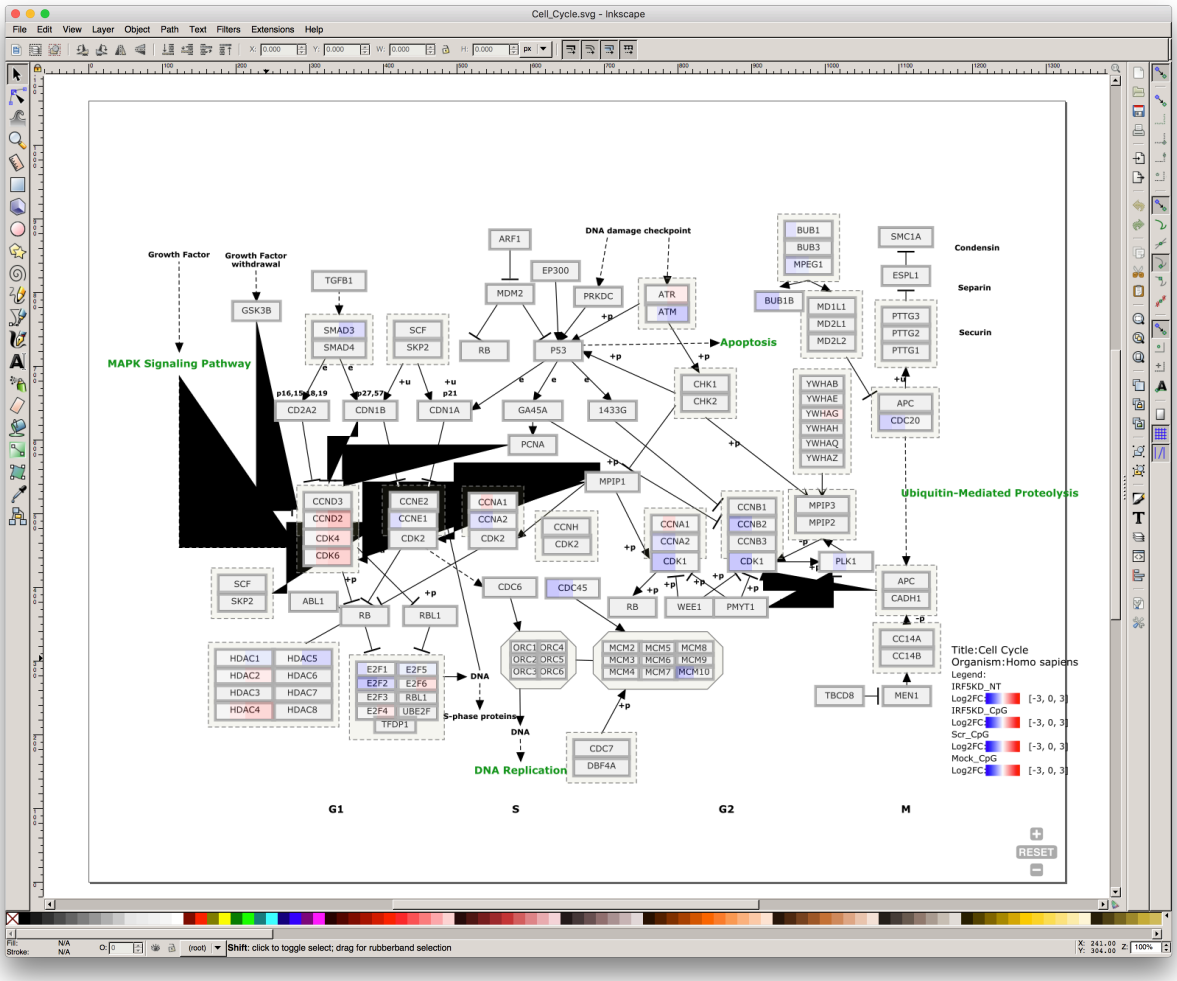
Inkscape to annotate and convert images to SVG if needed

Inkscape (https://inkscape.org) is a powerful open-source vector graphics editor. You can add text annotations to an image in jpeg, png, gif, or tiff format and save it as “Plain SVG” file to be used in canvasDesigner tool. The example here is showing how to add annotations to a TIFF image and then save as SVG format.



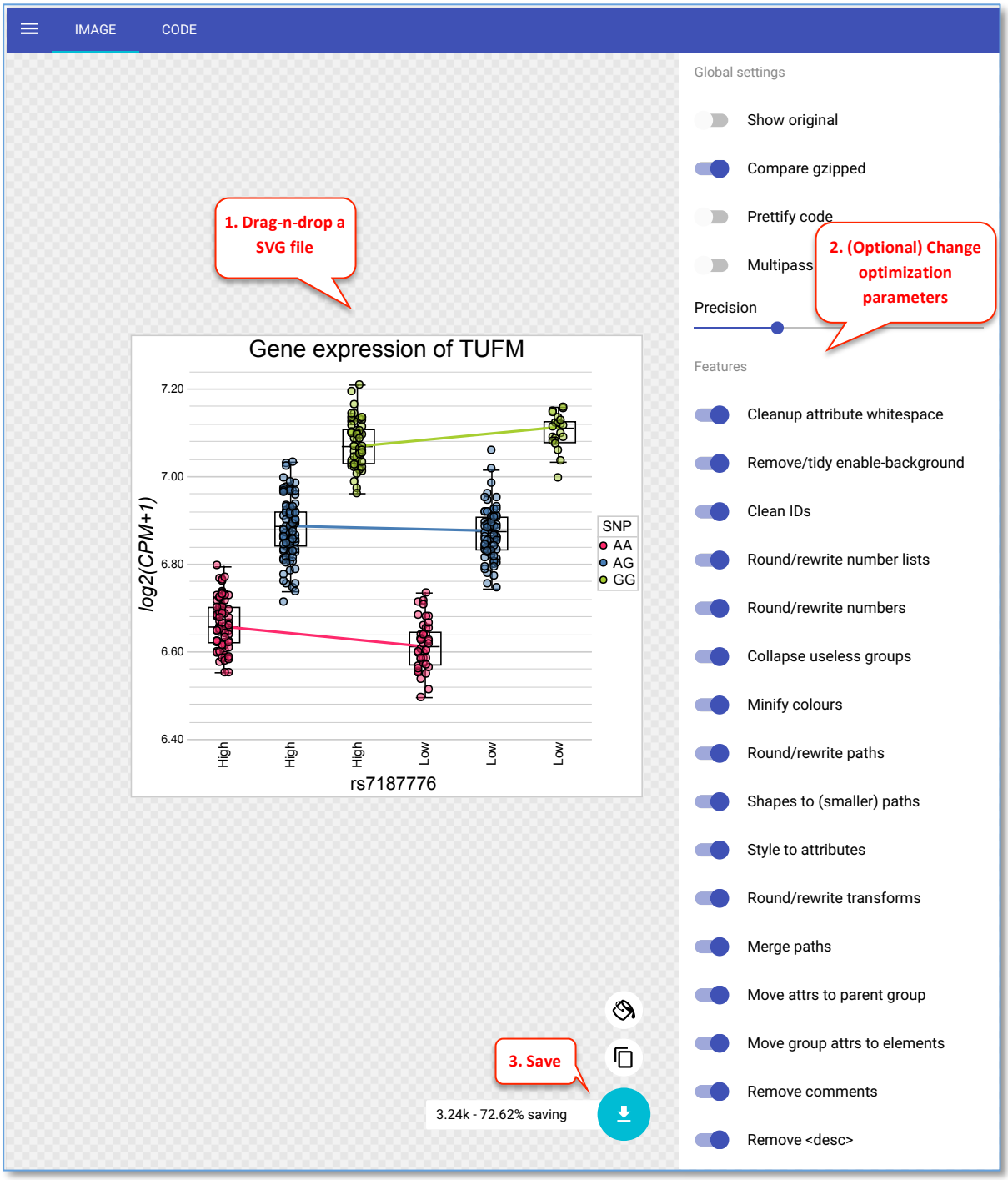
Limitation of SVG rendering by Inkscape

Rendering of some complex SVG files is flawed even using the latest version of Inkscape v0.92. Here is an example of pathway diagram (https://baohongz.github.io/canvasDesigner/SVG/Cell_Cycle.svg) from Wikipathways rendered by Inkscape. Please note unexpected black triangles generated by Inkscape. The same SVG file is rendered perfectly by canvasDesigner as shown in the Chrome browser, https://baohongz.github.io/canvasDesigner/demo2_saved.html (Figure E).



Optimize SVG files by SVGOMG

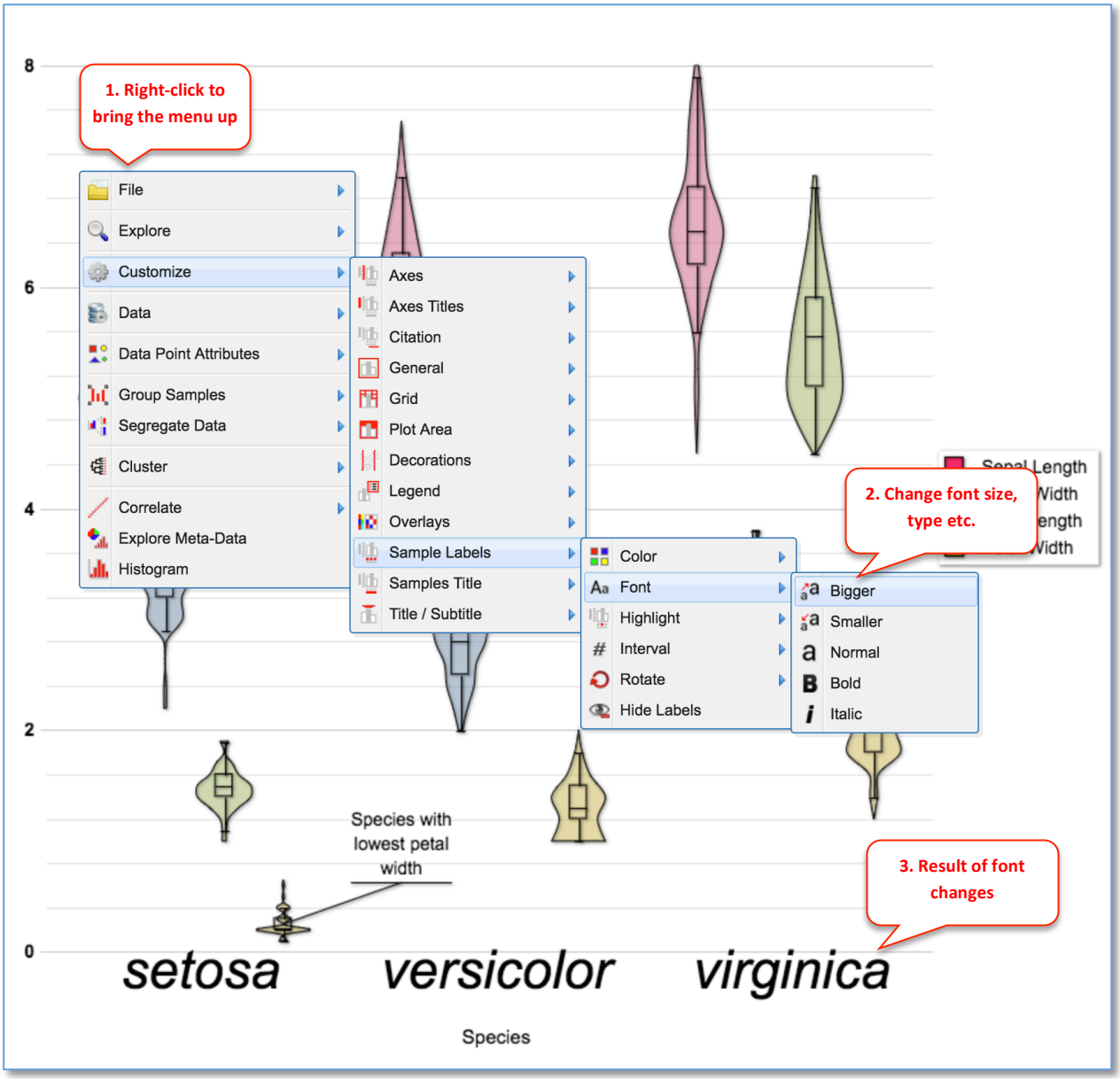
SVG files, especially exported from various tools, usually contain a lot of redundant and useless information such as editor metadata, comments, hidden elements, default or non-optimal values and other stuff that can be safely removed or converted by the online tool SVGOMG (https://jakearchibald.github.io/svgomg) without affecting SVG rendering result.



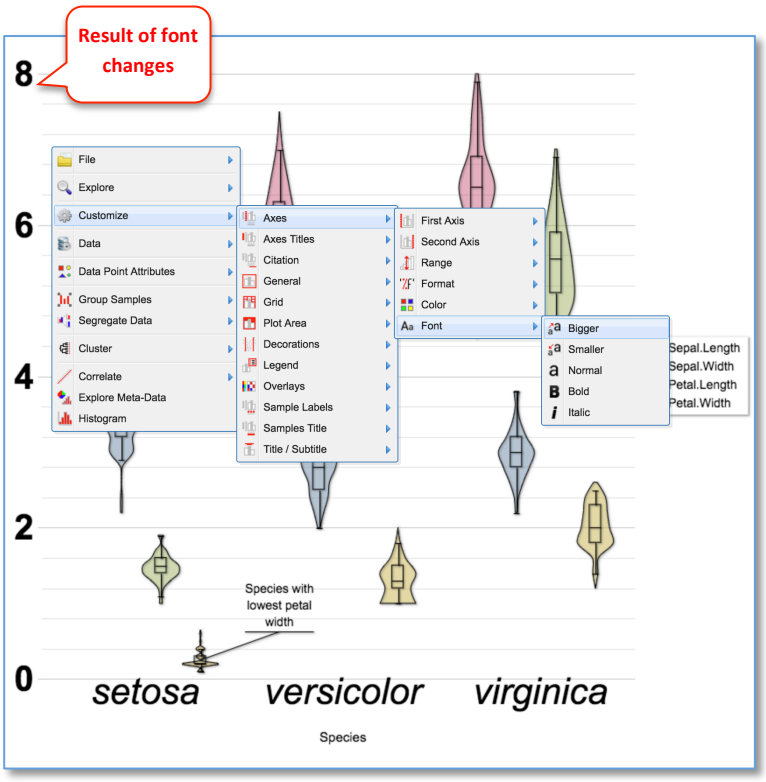
Change Font Sizes

Font sizes of the title, axial labels and legend of a canvasXpress plot can be changed through the menu of each individual plot as shown in the following steps. After font customization, the plot can be saved in SVG format to be used in canvasDesigner tool. We will use figure D (https://baohongz.github.io/canvasDesigner/violin.html) in demo 1 as an example.

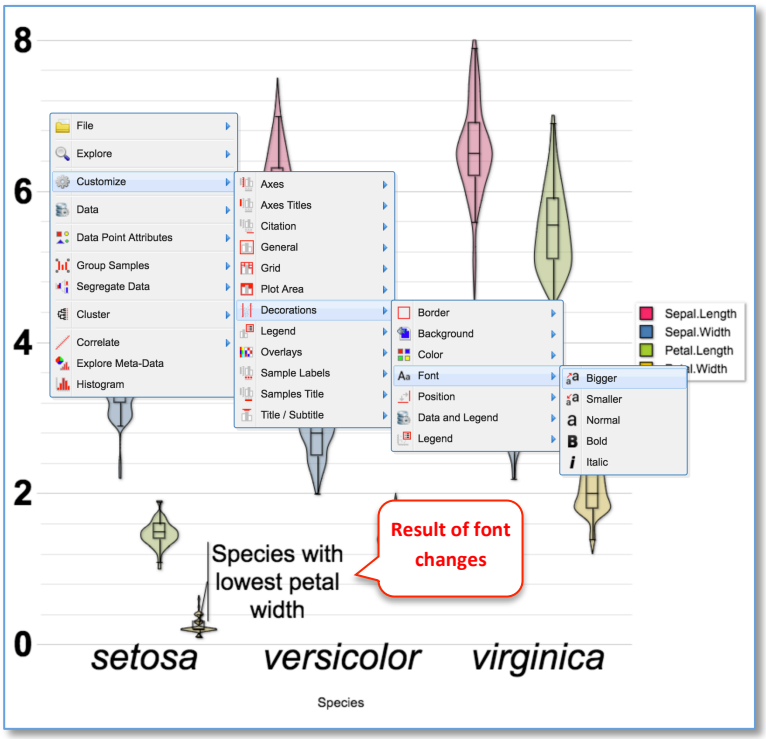
1) Change font size of sample label



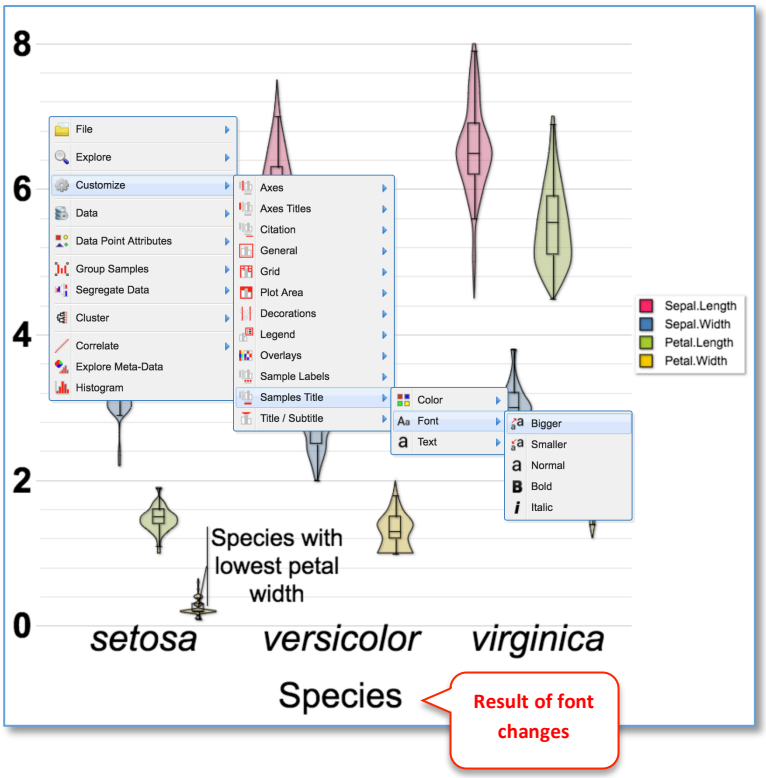
2) Change font size of y-axis label



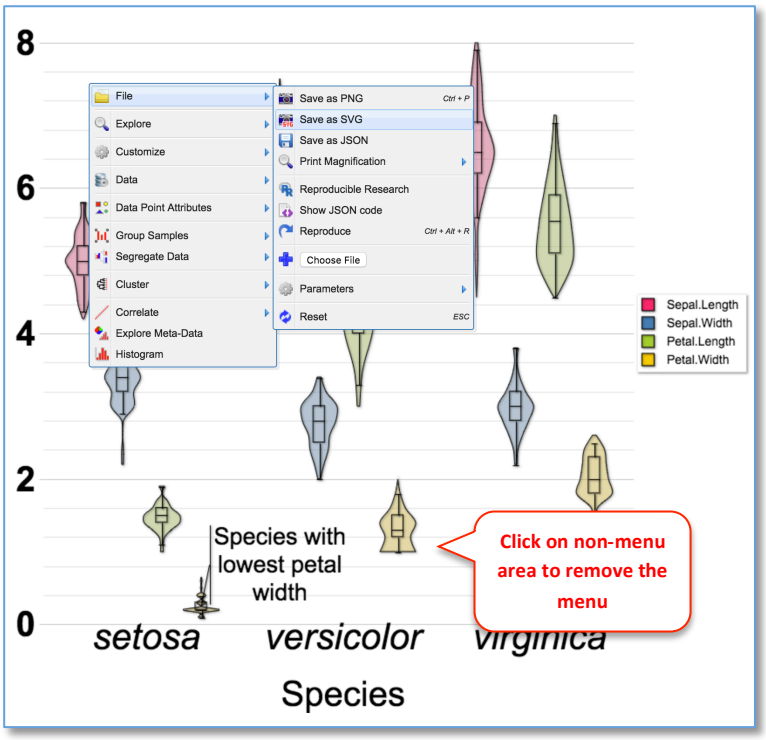
3) Change font size of plot decoration



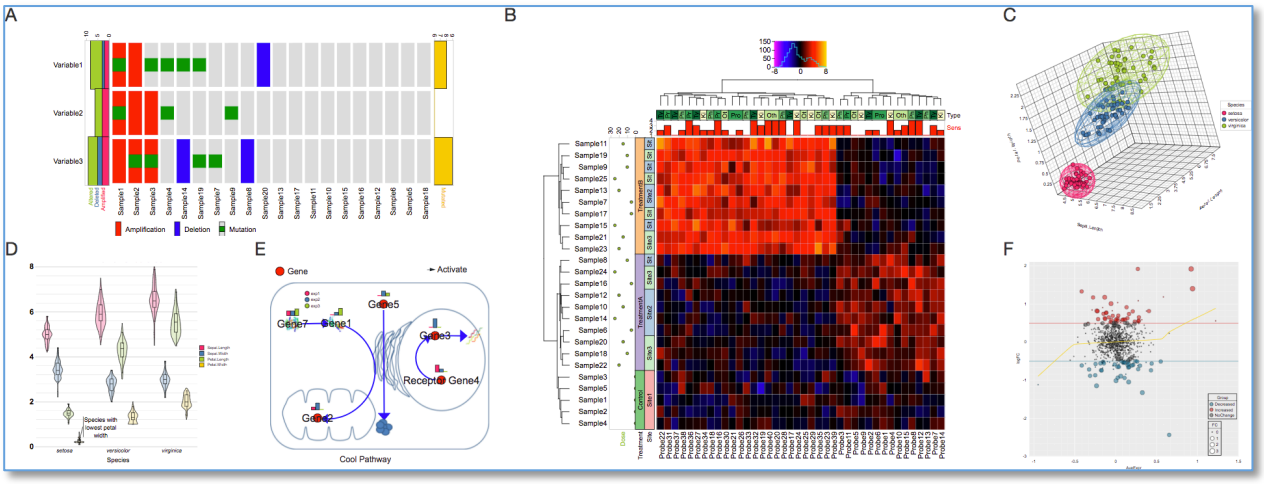
4) Change font size of sample title

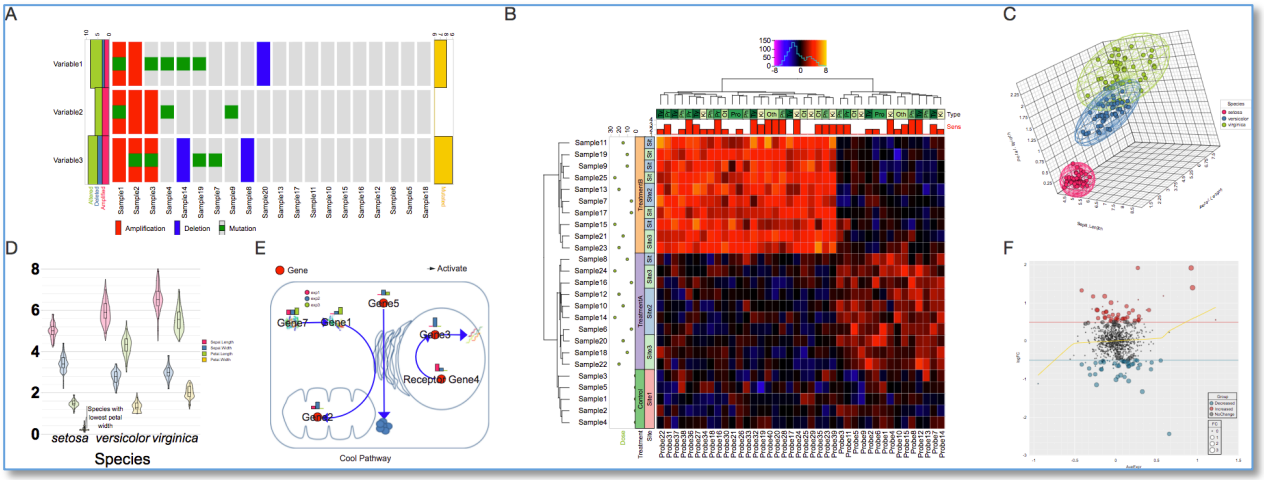


5) Save the plot with bigger font in SVG format as violin_bigfont.svg



6) Before the replacement of figure D



7) Replace figure D in demo 1 (https://baohongz.github.io/canvasDesigner/demo1.html) by violin_bigfont.svg, see the video guide at https://twitter.com/baohongzhang/status/987500399702790144

8) After the replacement, please note the enlarged font in figure D