Supporting Information

Substance over Subjectivity: Moving Beyond the Histogram

Sam L. Anderson,[2,3] Erik J. Luber,[1,2] Brian C. Olsen[*,1,2] and Jillian M. Buriak[*,1,2]

[1]Department of Chemistry, University of Alberta, 11227 Saskatchewan Drive, Edmonton, AB T6G 2G2, Canada

[2]National Institute for Nanotechnology, National Research Council Canada, 11421 Saskatchewan Drive, Edmonton, AB T6G 2M9, Canada

[3]Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Alberta T6G 2G8, Canada

*Brian C. Olsen: bcolsen@ualberta.ca
*Jillian M. Buriak: jburiak@ualberta.ca

The following is a brief tutorial outlining the functionality of the web-application we built for computing and displaying average shifted histograms (ASHs). This web-app can be accessed at the following url: http://maverick.chem.ualberta.ca/plot/ash. Shown in Figure S1a is the default layout you will see when loading the webpage. By default the data used in Figures 1-4 of the main text are loaded, and the corresponding ASH can be plotted by clicking the "Make ASH" button found in the bottom left-hand corner, which is shown in Figure S1b. In the top left-hand corner of the ASH numbers are displayed, which are the mean, standard deviation and number of data points of the data. In the case of Figure S1b, the mean is 0.4, standard deviation is 1.5 and number of data points is 20.

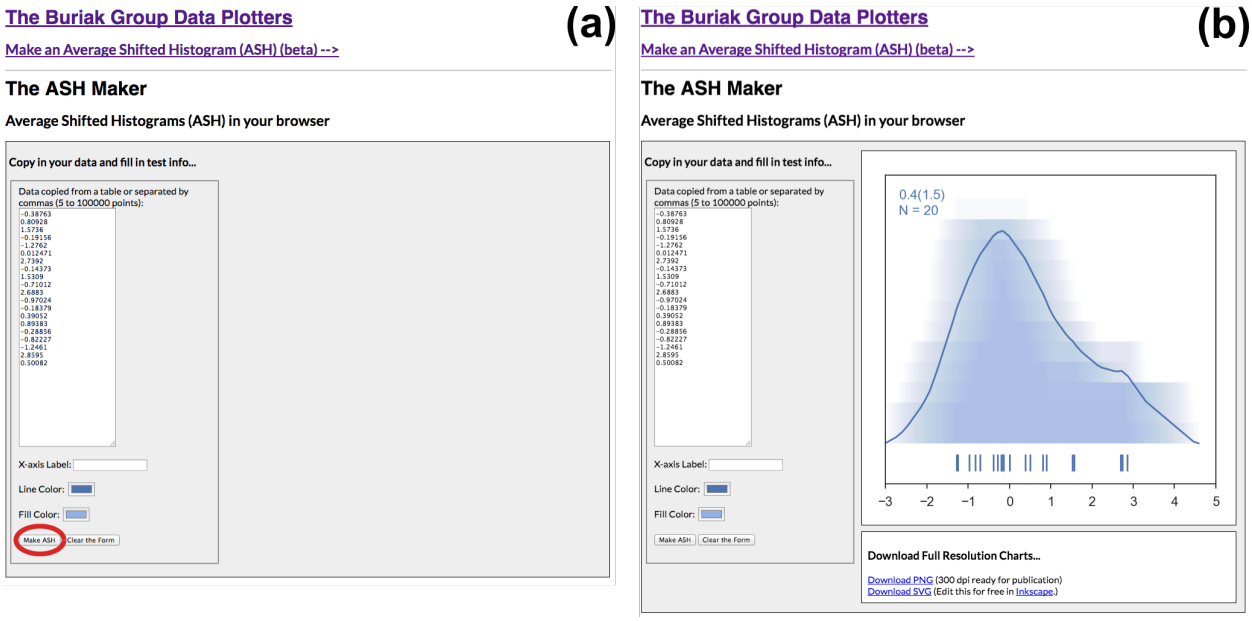

Figure S1. (a) Default configuration of ASH plotter, by clicking the "Make ASH" button (circled in red), and ASH from the data entered into the upper text box will be plotted, as shown in (b).

Currently several options exist for modifying the appearance of the ASH. You may add an x-axis label by typing into the textbox labeled “X-axis Label:”. You can also modify the line color of the ASH by clicking the box beside ‘Line Color:’ and selecting from the color picker. Likewise, The same can be done for the transparent fill color. In order to see these changes, simply click the “Make ASH” button again. An example of a modified plot is shown in Figure S2. (Note: currently color pickers are not supported in Safari or Internet explorer. We recommend using either Firefox or Chrome.)

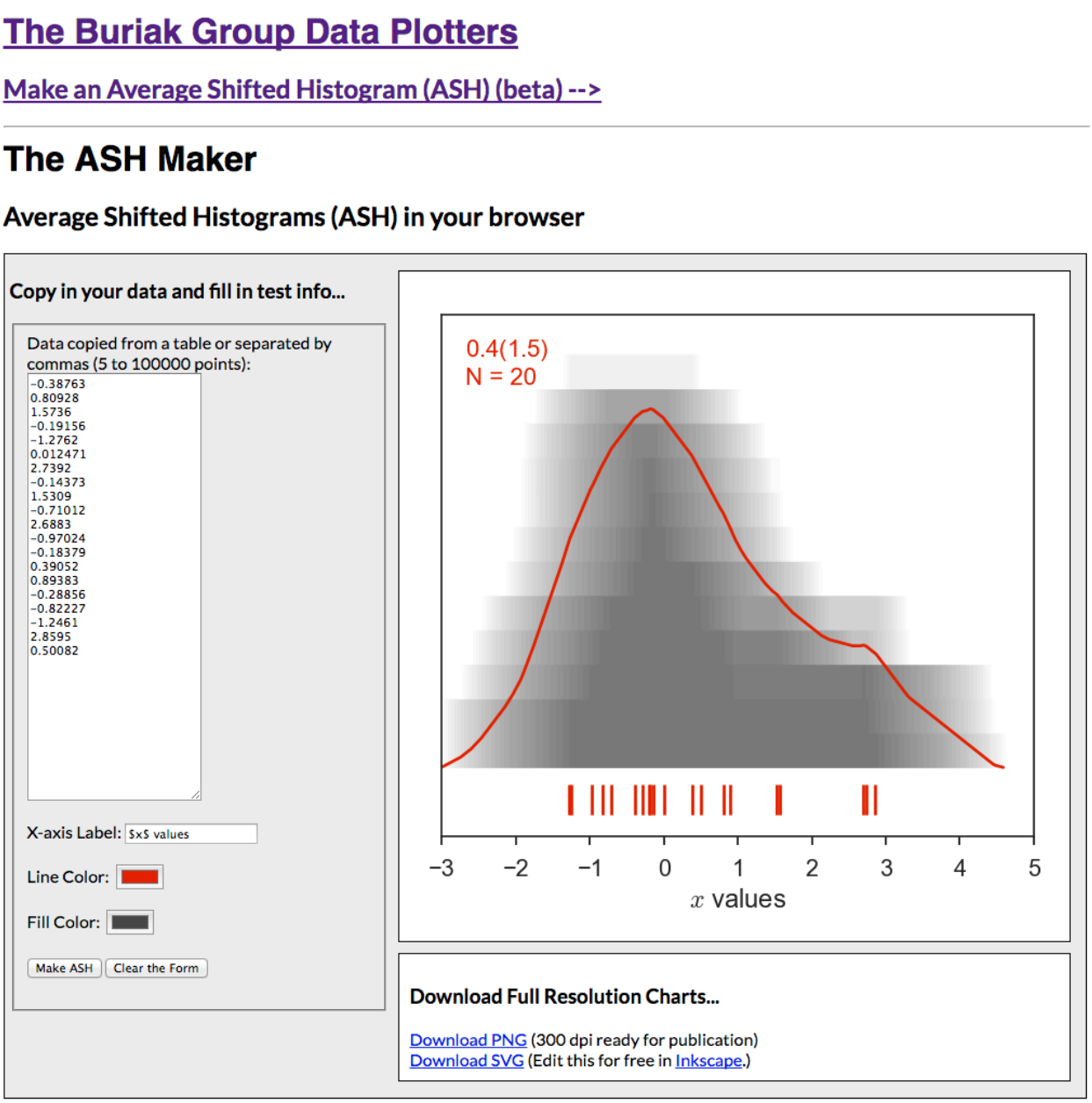

Figure S2. Example of ASH with and x-axis label, modified line and fill color.

Two options for downloading the generated ASH currently exist. Below the ASH you can click on the “Download PNG” link to download a 300 dpi portable network graphic (PNG) image.

Alternatively, you can download a scalable vector graphic (SVG) if you wish to further customize the generated ASH (SVGs are easily edited in Inkscape, which is open-source software).

Lastly, you can generate ASHs from your own data sets. This can be accomplished by clicking the "Clear the Form" button at the bottom of the webpage, then pasting your data into the now empty textbox. Pasting data from any table or column copied from Microsoft Excel, Matlab, Origin or any comma/tab/newline separated text file should work. As previously, you may add the x-axis label and modify the line and fill colors. An example of this is shown in Figure S3.

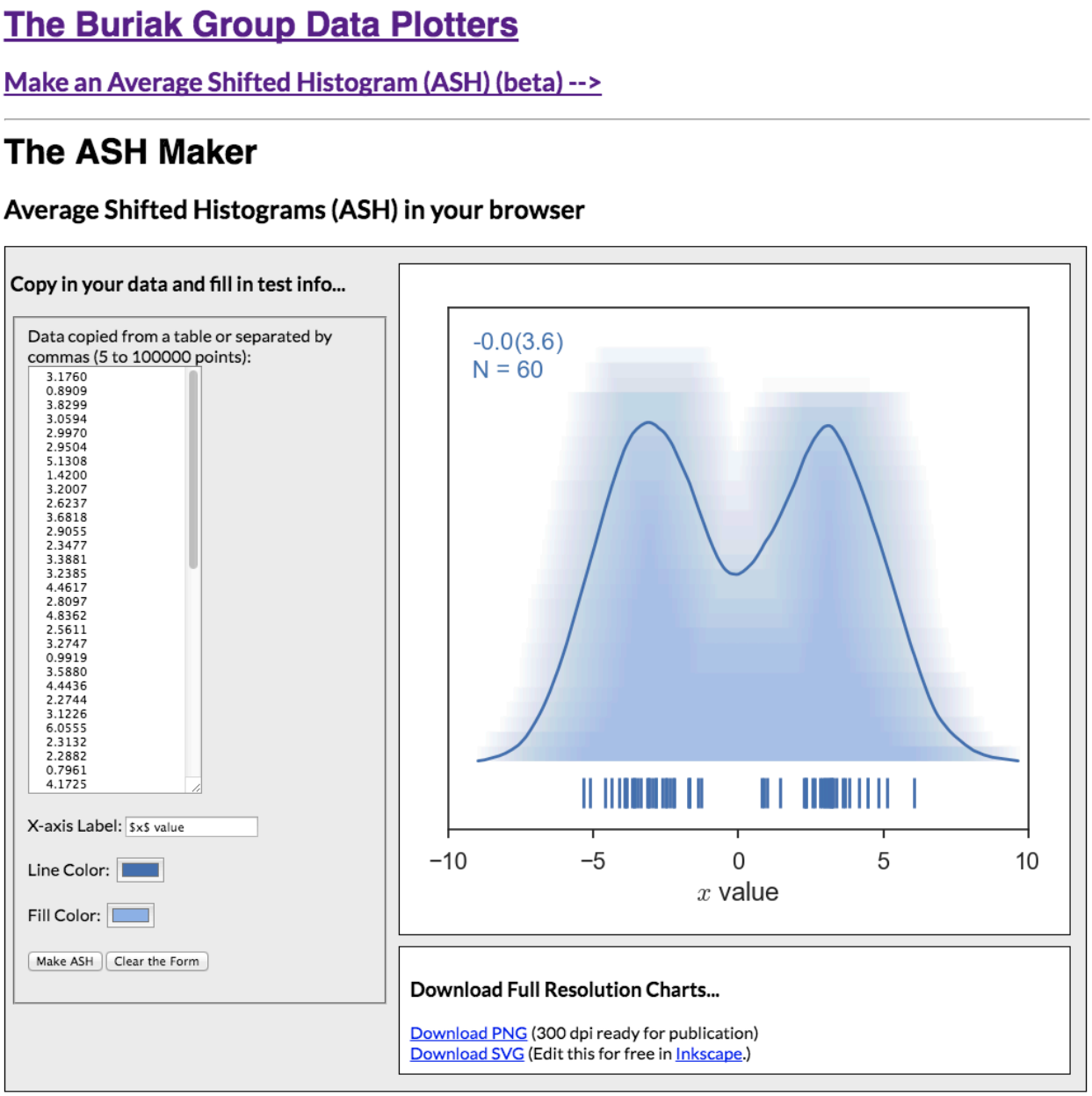

Figure S3. Example of ASH generated from other data that has been pasted into the data table textbox.