

# GRNsight Client Side Testing Overview

Last Updated: 2023-01-31

ID	Included in Testing Protocol	GRNsight Option	User Action	Result
e1	NO	Dropdown Menu: Edge -> Enable Edge Coloring Based on Weight Value	Check	GRNsight should enable edge coloring and set the sidebar menu 'Enable Edge Coloring' to checked
e1	NO	Dropdown Menu: Edge -> Enable Edge Coloring Based on Weight Value	Uncheck	GRNsight should disable edge coloring and set the sidebar menu 'Enable Edge Coloring' to unchecked
e2	NO	Sidebar Menu: Enable Edge Coloring	Check	GRNsight should enable edge coloring and set the dropdown menu 'Enable Edge Coloring Based on Weight Value' to checked
e2	NO	Sidebar Menu: Enable Edge Coloring	Uncheck	GRNsight should disable edge coloring and set the dropdown menu 'Enable Edge Coloring Based on Weight Value' to unchecked
e3	NO	Sidebar Menu: Hide/Show Edge Weights	Select "Show With Mouse Over"	A single edge weight should display when user mouses over a single edge.
e3	NO	Sidebar Menu: Hide/Show Edge Weights	Select "Always Show Edge Weights"	All edge weights should always be visible.
e3	NO	Sidebar Menu: Hide/Show Edge Weights	Select "Never Show Edge Weights"	No edge weights should be visible.
e4	NO	Dropdown Menu: Edge -> Hide/Show Edge Weights	Check "Show With Mouse Over"	A single edge weight should display when user mouses over a single edge.
e4	NO	Dropdown Menu: Edge -> Hide/Show Edge Weights	Check "Always Show Edge Weights"	All edge weights should always be visible.
e4	NO	Dropdown Menu: Edge -> Hide/Show Edge Weights	Check "Never Show Edge Weights"	No edge weights should be visible.
e5	NO	Sidebar Menu: Edge Weight Normalization Factor	Enter a Number in the Box and Click "Set Factor" button	The graph should reload with the new normalization factor applied to its edge weight thicknesses
e6	NO	Dropdown Menu: Edge -> Edge Weight Normalization Factor	Enter a Number in the Box and Press Enter	The graph should reload with the new normalization factor applied to its edge weight thicknesses
e7	NO	Sidebar Menu: Reset	Click	The graph should reset to its default normalization

		Factor Button		factor and reload the graph
e8	NO	Dropdown Menu: Edge -> Reset Edge Weight Normalization	Click	The graph should reset to its default normalization factor and reload the graph
e9	NO	Sidebar Menu: Gray Threshold Slider	Change the Grey Threshold Value	The graph should reload, with edges that fall below the threshold value colored gray
e10	NO	Dropdown Menu: Edge -> Gray Threshold Input Box	Change the Grey Threshold Value and Press Enter	The graph should reload, with edges that fall below the threshold value colored gray
e11	NO	Sidebar Menu: Show Grey Edges as Dashed Checkbox	Uncheck	The graph should show gray lines as solid lines
e11	NO	Sidebar Menu: Show Grey Edges as Dashed Checkbox	Check	The graph should show gray lines as dashed lines
e12	NO	Dropdown Menu: Edge -> Show Grey Edges as Dashed	Uncheck	The graph should show gray lines as solid lines
e12	NO	Dropdown Menu: Edge -> Show Grey Edges as Dashed	Check	The graph should show gray lines as dashed lines
f1	NO	Dropdown Menu: Help	Select "Getting Started"	GRNsight should open the GRNsight documentation page
f1	NO	Dropdown Menu: Help	Select "GRNsight Wiki"	GRNsight should open the GRNsight wiki page
f1	NO	Dropdown Menu: Help	Select "About GRNsight"	GRNsight should open the About GRNsight page
f2	NO	Load Graph	None	GRNsight should have no graph in the viewport
f2	NO	Load Graph	Dropdown Menu: Network -> Demo -> Demo #1	GRNsight should lay out an unweighted network graph from Demo #1
f2	NO	Load Graph	Dropdown Menu: Network -> Demo -> Demo #2	GRNsight should lay out a weighted network graph from Demo #2
f2	NO	Load Graph	Dropdown Menu: Network -> Demo -> Demo #3	GRNsight should lay out an unweighted network graph from Demo #3
f2	NO	Load Graph	Dropdown Menu: Network -> Demo -> Demo #4	GRNsight should lay out a weighted network graph from Demo #4
f2	NO	Load Graph	Dropdown Menu: Network -> Open File	GRNsight should lay out a network graph from the Excel, SIF, or GraphML network if there are no errors in the file

f2	NO	Load Graph	Dropdwon Menu: Network -> Load From Database	GRNsight should lay out a network graph from the given genes added from the specified database source
f2	NO	Load Graph	Dropdown Menu: Demo -> Demo #1	GRNsight should lay out an unweighted network graph from Demo #1
f2	NO	Load Graph	Dropdown Menu: Demo -> Demo #2	GRNsight should lay out a weighted network graph from Demo #2
f2	NO	Load Graph	Dropdown Menu: Demo -> Demo #3	GRNsight should lay out an unweighted network graph from Demo #3
f2	NO	Load Graph	Dropdown Menu: Demo -> Demo #4	GRNsight should lay out a weighted network graph from Demo #4
f2	NO	Load Graph	Sidebar Menu: Network -> Demo -> Demo #1	GRNsight should lay out an unweighted network graph from Demo #1
f2	NO	Load Graph	Sidebar Menu: Network -> Demo -> Demo #2	GRNsight should lay out a weighted network graph from Demo #2
f2	NO	Load Graph	Sidebar Menu: Network -> Demo -> Demo #3	GRNsight should lay out an unweighted network graph from Demo #3
f2	NO	Load Graph	Sidebar Menu: Network -> Demo -> Demo #4	GRNsight should lay out a weighted network graph from Demo #4
f2	NO	Load Graph	Sidebar Menu: Network -> Open File	GRNsight should lay out a network graph from the Excel, SIF, or GraphML network if there are no errors in the file
f2	NO	Load Graph	Sidebar Menu: Network -> Load From Database	GRNsight should lay out a network graph from the given genes added from the specified database source
f3	NO	Reload Graph	Dropdown Menu: Network -> Reload	The graph should center, zoom to 100%, and reapply the force graph parameters
f3	NO	Reload Graph	Sidebar Menu: Network -> Reload	The graph should center, zoom to 100%, and reapply the force graph parameters
f4	NO	Dropdown Menu: Export -> Export Data	Select "To Unweighted SIF"	GRNsight should export an unweighted SIF file from the graph currently loaded
f4	NO	Dropdown Menu: Export -> Export Data	Select "To Weighted SIF"	GRNsight should export a weighted SIF file from the graph currently loaded

f4	NO	Dropdown Menu: Export -> Export Data	Select "To Unweighted GraphML"	GRNsight should export an unweighted GraphML file from the graph currently loaded
f4	NO	Dropdown Menu: Export -> Export Data	Select "To Weighted GraphML"	GRNsight should export a weighted GraphML file from the graph currently loaded
f4	NO	Dropdown Menu: Export -> Export Data	Select "To Excel"	GRNsight should export an Excel file from the graph currently loaded with the chosen data
f5	NO	Dropdown Menu: Export -> Export Image	Select "To PNG"	GRNsight should export a PNG image from the graph currently loaded
f5	NO	Dropdown Menu: Export -> Export Image	Select "To SVG"	GRNsight should export a SVG image from the graph currently loaded
f5	NO	Dropdown Menu: Export -> Export Image	Select "To PDF"	GRNsight should export a PDF file from the graph currently loaded
f6	NO	Dropdown Menu: Export -> Print	Select	GRNsight should open the Print Dialogue Box
i1	YES	Sidebar Menu: Grid Layout	Keep at Default	The graph should default to force graph layout
i1	YES	Sidebar Menu: Grid Layout	Click Grid Layout Button	The graph should change to grid layout
i1	YES	Sidebar Menu: Grid Layout	Click Force Graph Layout Button	The graph should change to force graph layout
i2	NO	Dropdown Menu: Layout -> Graph Options	Keep at Default	The graph should be in force graph layout by default
i2	NO	Dropdown Menu: Layout -> Graph Options	Grid Layout	The graph should apply grid layout
i2	NO	Dropdown Menu: Layout -> Graph Options	Force Graph	The graph should apply force graph layout
i3	NO	Dropdown Menu: Layout -> Lock Force Graph Parameters	Check "Lock Force Graph Parameters"	The Force Graph Parameter sliders should be disabled.
i3	NO	Dropdown Menu: Layout -> Lock Force Graph Parameters	Uncheck "Lock Force Graph Parameters"	The Force Graph Parameter sliders should be enabled.
i4	NO	Dropdown Menu: Layout -> Reset Force Graph Parameters	Click "Reset Force Graph Parameters"	The force graph parameters should revert to the default values, if Lock Force Graph Parameters is unchecked
i5	NO	Dropdown Menu: Layout -> Undo Reset	Click "Undo Reset"	The force graph parameters should return to the values they had before the Undo Reset button (or menu item) was selected, if Undo Reset is enabled.
		Dropdown Menu:	Input Value,	The graph's edges should visibly change in length to

I6	NO	Layout -> Link Distance	then Press Enter	the value entered if Lock Force Graph Parameters is unchecked
I7	NO	Dropdown Menu: Layout -> Charge	Input Value, then Press Enter	The graph's nodes should visibly change it's level of attraction to each other to the value entered if Lock Force Graph Parameters is unchecked
I8	NO	Sidebar Menu: Force Graph Parameter Sliders	Keep at Default Values	The graph should be laid out according to the default values of the force graph parameter sliders
I8	NO	Sidebar Menu: Force Graph Parameter Sliders	Decrease Link Distance	The graph's edges should visibly decrease in length if Lock Force Graph Parameters is unchecked
I8	NO	Sidebar Menu: Force Graph Parameter Sliders	Increase Link Distance	The graph's edges should visibly increase in length if Lock Force Graph Parameters is unchecked
I8	NO	Sidebar Menu: Force Graph Parameter Sliders	Increase Charge	The graph's nodes should visibly increase attraction to each other if Lock Force Graph Parameters is unchecked
I8	NO	Sidebar Menu: Force Graph Parameter Sliders	Decrease Charge	The graph's nodes should visibly decrease attraction to each other if Lock Force Graph Parameters is unchecked
I9	NO	Sidebar Menu: Lock Force Graph Parameters Checkbox	Check	The Force Graph Parameter sliders should be disabled.
I9	NO	Sidebar Menu: Lock Force Graph Parameters Checkbox	Uncheck	The Force Graph Parameter sliders should be enabled.
I10	NO	Sidebar Menu: Reset Force Graph Parameters Button	Click	The Force Graph Parameter sliders should revert to the default values, if Lock Force Graph Parameters is unchecked.
I11	NO	Sidebar Menu: Undo Reset Button	Click	The Force Graph Parameter sliders should return to the values they had before the Undo Reset button (or menu item) was selected, if the Undo Reset button is enabled.
n1	NO	Sidebar Menu: Top Dataset	Keep Default Selection	The top half of each node should be colored using data from the first expression dataset detected in the input workbook, if expression data sheets are present in input workbook
n1	NO	Sidebar Menu: Top Dataset	Select Top Dataset from Dropdown List	The top half of each node should be colored using data from the selected dataset, if expression data sheets are present in input workbook
n2	NO	Dropdown Menu: Node -> Select Top Dataset	Keep Default Selection	The top half of each node should be colored using data from the first expression dataset detected in the input workbook, if expression data sheets are present in input workbook
n2	NO	Dropdown Menu: Node -> Select Top Dataset	Check New Top Dataset from Dropdown List	The top half of each node should be colored using data from the selected dataset, if expression data sheets are present in input workbook

n3	NO	Sidebar Menu: Bottom Dataset	Keep Default Selection	The bottom half of each node should be colored using data from the same dataset as the top dataset, if expression data sheets are present in input workbook
n3	NO	Sidebar Menu: Bottom Dataset	Select Bottom Dataset from Dropdown List	The bottom half of each node should be colored using data from the selected dataset, if expression data sheets are present in input workbook
n4	NO	Dropdown Menu: Node -> Select Bottom Dataset	Keep Default Selection	The bottom half of each node should be colored using data from the same dataset as the top dataset, if expression data sheets are present in input workbook
n4	NO	Dropdown Menu: Node -> Select Bottom Dataset	Check New Bottom Dataset from Dropdown List	The bottom half of each node should be colored using data from the selected dataset, if expression data sheets are present in input workbook
n5	NO	Sidebar Menu: Log Fold Change Max Value	Keep Default Value	The node coloring visualization's color intensity should default to having a Log Fold Change Max Value of 3, if expression data sheets are present in input workbook
n5	NO	Sidebar Menu: Log Fold Change Max Value	Increase Log Fold Change Max Value	The node coloring visualization's color intensity should decrease, if expression data sheets are present in input workbook
n5	NO	Sidebar Menu: Log Fold Change Max Value	Decrease Log Fold Change Max Value	The node coloring visualization's color intensity should increase, if expression data sheets are present in input workbook
n6	NO	Dropdown Menu: Node -> Log Fold Change Max Value	Keep Default Value	The node coloring visualization's color intensity should default to having a Log Fold Change Max Value of 3, if expression data sheets are present in input workbook
n6	NO	Dropdown Menu: Node -> Log Fold Change Max Value	Increase Log Fold Change Max Value	The node coloring visualization's color intensity should decrease, if expression data sheets are present in input workbook
n6	NO	Dropdown Menu: Node -> Log Fold Change Max Value	Decrease Log Fold Change Max Value	The node coloring visualization's color intensity should increase, if expression data sheets are present in input workbook
n7	NO	Sidebar Menu: Average Replicates Values (Top Dataset)	Check	GRNsight should average replicate values for top dataset, if expression data sheets are present in input workbook
n7	NO	Sidebar Menu: Average Replicates Values (Top Dataset)	Uncheck	GRNsight should not average replicate values for top dataset, if expression data sheets are present in input workbook
n8	NO	Dropdown Menu: Node -> Average Replicates Values (Top Dataset)	Check	GRNsight should average replicate values for top dataset, if expression data sheets are present in input workbook
n8	NO	Dropdown Menu: Node -> Average Replicates Values (Top Dataset)	Uncheck	GRNsight should not average replicate values for top dataset, if expression data sheets are present in input workbook
n9	NO	Sidebar Menu: Average Replicates Values (Bottom Dataset)	Check	GRNsight should average replicate values for bottom dataset, if expression data sheets are present in input workbook

n9	NO	<p>Sidebar Menu: Average Replicates Values (Bottom Dataset)</p>	Uncheck	GRNsight should not average replicate values for bottom dataset, if expression data sheets are present in input workbook
n10	NO	<p>Dropdown Menu: Node -&gt; Average Replicates Values (Bottom Dataset)</p>	Check	GRNsight should average replicate values for bottom dataset, if expression data sheets are present in input workbook
n10	NO	<p>Dropdown Menu: Node -&gt; Average Replicates Values (Bottom Dataset)</p>	Uncheck	GRNsight should not average replicate values for bottom dataset, if expression data sheets are present in input workbook
n11	NO	<p>Sidebar Menu: Node Coloring Toggle Button</p>	Click	Node coloring should toggle between on and off, with default being on, if expression data sheets are present in input workbook
n12	YES	<p>Dropdown Menu: Node -&gt; Enable Node Coloring</p>	Check	Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
n12	YES	<p>Dropdown Menu: Node -&gt; Enable Node Coloring</p>	Uncheck	Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
v1	NO	<p>Sidebar Menu: Restrict Graph to Viewport Checkbox</p>	Check	The graph bounding box should always be contained within the viewport.
v1	NO	<p>Sidebar Menu: Restrict Graph to Viewport Checkbox</p>	Uncheck	The graph bounding box should be allowed to extend past the viewport
v2	NO	<p>Sidebar Menu: Viewport Size</p>	Keep as Detected	Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
v2	NO	<p>Sidebar Menu: Viewport Size</p>	Select "Small"	The viewport size should be set to small
v2	NO	<p>Sidebar Menu: Viewport Size</p>	Select "Medium"	The viewport size should be set to medium
v2	NO	<p>Sidebar Menu: Viewport Size</p>	Select "Large"	The viewport size should be set to large
v2	NO	<p>Sidebar Menu: Viewport Size</p>	Select "Fit to Window"	The viewport size should automatically be set to the size of the browser window
v3	YES	<p>Dropdown Menu: View -&gt; Viewport Size</p>	Keep as Detected	Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
v3	YES	<p>Dropdown Menu: View -&gt; Viewport Size</p> <p>Dropdown Menu:</p>	Check "Small"	The viewport size should be set to small

v3	YES	View -> Viewport Size	Check "Medium"	The viewport size should be set to medium
v3	YES	Dropdown Menu: View -> Viewport Size	Check "Large"	The viewport size should be set to large
v3	YES	Dropdown Menu: View -> Viewport Size	Check "Fit to Window"	The viewport size should automatically be set to the size of the browser window
v4	YES	Dropdown Menu: View -> Restrict Graph to Viewport	Check	The graph should always be contained within the viewport.
v4	YES	Dropdown Menu: View -> Restrict Graph to Viewport	Uncheck	The graph should be allowed to extend past the viewport
v5	NO	Dropdown Menu: View -> Zoom	Enter Zoom Value, then Press Enter	The viewport should should zoom according to the value
vp1	NO	Viewport Menu: D-Pad Control	Click Right Arrow	The graph should shift to the right
vp1	NO	Viewport Menu: D-Pad Control	Click Left Arrow	The graph should shift to the left
vp1	NO	Viewport Menu: D-Pad Control	Click Up Arrow	The graph should shift down
vp1	NO	Viewport Menu: D-Pad Control	Click Down Arrow	The graph should shift up
vp1	NO	Viewport Menu: D-Pad Control	Click Center Button	The graph should move to the center of the bounding box (note that it is not the same thing as the viewport)
vp2	NO	Viewport Menu: Zoom Slider	Increase Zoom Level	The graph should zoom in (get larger)
vp2	NO	Viewport Menu: Zoom Slider	Decrease Zoom Level	The graph should zoom out (get smaller)
vp3	NO	Viewport Menu: Node	No Click	
vp3	NO	Viewport Menu: Node	Right Click	Gene information page should appear in a new tab within the browser.

## GRNsight Function Availability Table

GRNsight Function	No Graph Loaded	Weighted Graph Loaded	Unweighted Graph Loaded
Dropdown Menu: Edge -> Enable Edge Coloring Based on Weight Value - Check	YES	YES	YES
Dropdown Menu: Edge -> Enable Edge Coloring Based on Weight Value - Uncheck	YES	YES	YES
Sidebar Menu: Enable Edge Coloring - Check	YES	YES	YES
Sidebar Menu: Enable Edge Coloring - Uncheck	YES	YES	YES
Sidebar Menu: Hide/Show Edge Weights - Select "Show With Mouse Over"	NO	YES	NO
Sidebar Menu: Hide/Show Edge Weights - Select "Always	NO	YES	NO



Show Edge Weights"	NO	YES	NO
Sidebar Menu: Hide/Show Edge Weights - Select "Never Show Edge Weights"	NO	YES	NO
Dropdown Menu: Edge -> Hide/Show Edge Weights - Check "Show With Mouse Over"	NO	YES	NO
Dropdown Menu: Edge -> Hide/Show Edge Weights - Check "Always Show Edge Weights"	NO	YES	NO
Dropdown Menu: Edge -> Hide/Show Edge Weights - Check "Never Show Edge Weights"	NO	YES	NO
Sidebar Menu: Edge Weight Normalization Factor - Enter a Number in the Box and Click "Set Factor" button	NO	YES	NO
Dropdown Menu: Edge -> Edge Weight Normalization Factor - Enter a Number in the Box and Press Enter	NO	YES	NO
Sidebar Menu: Reset Factor Button - Click	NO	YES	NO
Dropdown Menu: Edge -> Reset Edge Weight Normalization - Click	NO	YES	NO
Sidebar Menu: Gray Threshold Slider - Change the Grey Threshold Value	NO	YES	NO
Dropdown Menu: Edge -> Gray Threshold Input Box - Change the Grey Threshold Value and Press Enter	NO	YES	NO
Sidebar Menu: Show Grey Edges as Dashed Checkbox - Uncheck	NO	YES	NO
Sidebar Menu: Show Grey Edges as Dashed Checkbox - Check	NO	YES	NO
Dropdown Menu: Edge -> Show Grey Edges as Dashed - Uncheck	NO	YES	NO
Dropdown Menu: Edge -> Show Grey Edges as Dashed - Check	NO	YES	NO
Dropdown Menu: Help - Select "Getting Started"	YES	YES	YES
Dropdown Menu: Help - Select "GRNsight Wiki"	YES	YES	YES
Dropdown Menu: Help - Select "About GRNsight"	YES	YES	YES
Load Graph - None	YES	YES	YES
Load Graph - Dropdown Menu: Network -> Demo -> Demo #1	YES	YES	YES
Load Graph - Dropdown Menu: Network -> Demo -> Demo #2	YES	YES	YES
Load Graph - Dropdown Menu: Network -> Demo -> Demo #3	YES	YES	YES
Load Graph - Dropdown Menu: Network -> Demo -> Demo #4	YES	YES	YES
Load Graph - Dropdown Menu: Network -> Open File	YES	YES	YES
Load Graph - Dropdwon Menu: Network -> Load From Database	YES	YES	YES
Load Graph - Dropdown Menu: Demo -> Demo #1	YES	YES	YES
Load Graph - Dropdown Menu: Demo -> Demo #2	YES	YES	YES
Load Graph - Dropdown Menu: Demo -> Demo #3	YES	YES	YES
Load Graph - Dropdown Menu: Demo -> Demo #4	YES	YES	YES
Load Graph - Sidebar Menu: Network -> Demo -> Demo #1	YES	YES	YES
Load Graph - Sidebar Menu: Network -> Demo -> Demo #2	YES	YES	YES
Load Graph - Sidebar Menu: Network -> Demo -> Demo #3	YES	YES	YES
Load Graph - Sidebar Menu: Network -> Demo -> Demo #4	YES	YES	YES

Load Graph - Sidebar Menu: Network -> Open File	YES	YES	YES
Load Graph - Sidebar Menu: Network -> Load From Database	YES	YES	YES
Reload Graph - Dropdown Menu: Network -> Reload	NO	YES	YES
Reload Graph - Sidebar Menu: Network -> Reload	NO	YES	YES
Dropdown Menu: Export -> Export Data - Select "To Unweighted SIF"	NO	YES	YES
Dropdown Menu: Export -> Export Data - Select "To Weighted SIF"	NO	YES	YES
Dropdown Menu: Export -> Export Data - Select "To Unweighted GraphML"	NO	YES	YES
Dropdown Menu: Export -> Export Data - Select "To Weighted GraphML"	NO	YES	YES
Dropdown Menu: Export -> Export Data - Select "To Excel"	NO	YES	YES
Dropdown Menu: Export -> Export Image - Select "To PNG"	NO	YES	YES
Dropdown Menu: Export -> Export Image - Select "To SVG"	NO	YES	YES
Dropdown Menu: Export -> Export Image - Select "To PDF"	NO	YES	YES
Dropdown Menu: Export -> Print - Select	NO	YES	YES
Sidebar Menu: Grid Layout - Keep at Default	YES	YES	YES
Sidebar Menu: Grid Layout - Click Grid Layout Button	YES	YES	YES
Sidebar Menu: Grid Layout - Click Force Graph Layout Button	YES	YES	YES
Dropdown Menu: Layout -> Graph Options - Keep at Default	NO	YES	YES
Dropdown Menu: Layout -> Graph Options - Grid Layout	NO	YES	YES
Dropdown Menu: Layout -> Graph Options - Force Graph	NO	YES	YES
Dropdown Menu: Layout -> Lock Force Graph Parameters - Check "Lock Force Graph Parameters"	NO	YES	YES
Dropdown Menu: Layout -> Lock Force Graph Parameters - Uncheck "Lock Force Graph Parameters"	NO	YES	YES
Dropdown Menu: Layout -> Reset Force Graph Parameters - Click "Reset Force Graph Parameters"	YES	YES	YES
Dropdown Menu: Layout -> Undo Reset - Click "Undo Reset"	YES	YES	YES
Dropdown Menu: Layout -> Link Distance - Input Value, then Press Enter	YES	YES	YES
Dropdown Menu: Layout -> Charge - Input Value, then Press Enter	YES	YES	YES
Sidebar Menu: Force Graph Parameter Sliders - Keep at Default Values	YES	YES	YES
Sidebar Menu: Force Graph Parameter Sliders - Decrease Link Distance	YES	YES	YES
Sidebar Menu: Force Graph Parameter Sliders - Increase Link Distance	YES	YES	YES
Sidebar Menu: Force Graph Parameter Sliders - Increase Charge	YES	YES	YES
Sidebar Menu: Force Graph Parameter Sliders - Decrease Charge	YES	YES	YES
Sidebar Menu: Lock Force Graph Parameters Checkbox - Check	YES	YES	YES
Sidebar Menu: Lock Force Graph Parameters Checkbox -	YES	YES	YES

Uncheck			
Sidebar Menu: Reset Force Graph Parameters Button - Click	YES	YES	YES
Sidebar Menu: Undo Reset Button - Click	YES	YES	YES
Sidebar Menu: Top Dataset - Keep Default Selection	NO	YES	YES
Sidebar Menu: Top Dataset - Select Top Dataset from Dropdown List	NO	YES	YES
Dropdown Menu: Node -> Select Top Dataset - Keep Default Selection	NO	YES	YES
Dropdown Menu: Node -> Select Top Dataset - Check New Top Dataset from Dropdown List	NO	YES	YES
Sidebar Menu: Bottom Dataset - Keep Default Selection	NO	YES	YES
Sidebar Menu: Bottom Dataset - Select Bottom Dataset from Dropdown List	NO	YES	YES
Dropdown Menu: Node -> Select Bottom Dataset - Keep Default Selection	NO	YES	YES
Dropdown Menu: Node -> Select Bottom Dataset - Check New Bottom Dataset from Dropdown List	NO	YES	YES
Sidebar Menu: Log Fold Change Max Value - Keep Default Value	NO	YES	YES
Sidebar Menu: Log Fold Change Max Value - Increase Log Fold Change Max Value	NO	YES	YES
Sidebar Menu: Log Fold Change Max Value - Decrease Log Fold Change Max Value	NO	YES	YES
Dropdown Menu: Node -> Log Fold Change Max Value - Keep Default Value	NO	YES	YES
Dropdown Menu: Node -> Log Fold Change Max Value - Increase Log Fold Change Max Value	NO	YES	YES
Dropdown Menu: Node -> Log Fold Change Max Value - Decrease Log Fold Change Max Value	NO	YES	YES
Sidebar Menu: Average Replicates Values (Top Dataset) - Check	NO	YES	YES
Sidebar Menu: Average Replicates Values (Top Dataset) - Uncheck	NO	YES	YES
Dropdown Menu: Node -> Average Replicates Values (Top Dataset) - Check	NO	YES	YES
Dropdown Menu: Node -> Average Replicates Values (Top Dataset) - Uncheck	NO	YES	YES
Sidebar Menu: Average Replicates Values (Bottom Dataset) - Check	NO	YES	YES
Sidebar Menu: Average Replicates Values (Bottom Dataset) - Uncheck	NO	YES	YES
Dropdown Menu: Node -> Average Replicates Values (Bottom Dataset) - Check	NO	YES	YES
Dropdown Menu: Node -> Average Replicates Values (Bottom Dataset) - Uncheck	NO	YES	YES
Sidebar Menu: Node Coloring Toggle Button - Click	NO	YES	YES
Dropdown Menu: Node -> Enable Node Coloring - Check	NO	YES	YES

Dropdown Menu: Node -> Enable Node Coloring - Uncheck	NO	YES	YES
Sidebar Menu: Restrict Graph to Viewport Checkbox - Check	YES	YES	YES
Sidebar Menu: Restrict Graph to Viewport Checkbox - Uncheck	YES	YES	YES
Sidebar Menu: Viewport Size - Keep as Detected	YES	YES	YES
Sidebar Menu: Viewport Size - Select "Small"	YES	YES	YES
Sidebar Menu: Viewport Size - Select "Medium"	YES	YES	YES
Sidebar Menu: Viewport Size - Select "Large"	YES	YES	YES
Sidebar Menu: Viewport Size - Select "Fit to Window"	YES	YES	YES
Dropdown Menu: View -> Viewport Size - Keep as Detected	YES	YES	YES
Dropdown Menu: View -> Viewport Size - Check "Small"	YES	YES	YES
Dropdown Menu: View -> Viewport Size - Check "Medium"	YES	YES	YES
Dropdown Menu: View -> Viewport Size - Check "Large"	YES	YES	YES
Dropdown Menu: View -> Viewport Size - Check "Fit to Window"	YES	YES	YES
Dropdown Menu: View -> Restrict Graph to Viewport - Check	YES	YES	YES
Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck	YES	YES	YES
Dropdown Menu: View -> Zoom - Enter Zoom Value, then Press Enter	NO	YES	YES
Viewport Menu: D-Pad Control - Click Right Arrow	NO	YES	YES
Viewport Menu: D-Pad Control - Click Left Arrow	NO	YES	YES
Viewport Menu: D-Pad Control - Click Up Arrow	NO	YES	YES
Viewport Menu: D-Pad Control - Click Down Arrow	NO	YES	YES
Viewport Menu: D-Pad Control - Click Center Button	NO	YES	YES
Viewport Menu: Zoom Slider - Increase Zoom Level	NO	YES	YES
Viewport Menu: Zoom Slider - Decrease Zoom Level	NO	YES	YES
Viewport Menu: Node - No Click	NO	YES	YES
Viewport Menu: Node - Right Click	NO	YES	YES

## Client Side Tests

### Test 1

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should always be contained within the viewport.

## Test 2

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should always be contained within the viewport.

## Test 3

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should always be contained within the viewport.

## Test 4

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should always be contained within the viewport.

## Test 5

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should always be contained within the viewport.

## Test 6

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should always be contained within the viewport.

## Test 7

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should always be contained within the viewport.

## Test 8

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should always be contained within the viewport.

## Test 9

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should always be contained within the viewport.

## Test 10

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should always be contained within the viewport.

## Test 11

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck

- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should always be contained within the viewport.

## Test 12

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should always be contained within the viewport.

## Test 13

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should always be contained within the viewport.

## Test 14

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:



- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should always be contained within the viewport.

## Test 15

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should always be contained within the viewport.

## Test 16

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should always be contained within the viewport.

## Test 17

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to medium

- The graph should always be contained within the viewport.

## Test 18

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should always be contained within the viewport.

## Test 19

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should always be contained within the viewport.

## Test 20

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should always be contained within the viewport.

## Test 21

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should always be contained within the viewport.

## Test 22

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should always be contained within the viewport.

## Test 23

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should always be contained within the viewport.

## Test 24

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck

- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should always be contained within the viewport.

## Test 25

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should always be contained within the viewport.

## Test 26

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should always be contained within the viewport.

## Test 27

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should always be contained within the viewport.

## Test 28

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should always be contained within the viewport.

## Test 29

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should always be contained within the viewport.

## Test 30

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Check

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window

- The graph should always be contained within the viewport.

## Test 31

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should be allowed to extend past the viewport

## Test 32

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should be allowed to extend past the viewport

## Test 33

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should be allowed to extend past the viewport

## Test 34

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should be allowed to extend past the viewport

## Test 35

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should be allowed to extend past the viewport

## Test 36

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Keep as Detected
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- Upon loading or reloading the GRNsight webpage, the viewport size should be automatically detected and set to small, medium, or large, based on the size of the browser window.
- The graph should be allowed to extend past the viewport

## Test 37

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should be allowed to extend past the viewport

## Test 38

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should be allowed to extend past the viewport

## Test 39

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should be allowed to extend past the viewport

## Test 40

Instructions:



- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should be allowed to extend past the viewport

## Test 41

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should be allowed to extend past the viewport

## Test 42

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Small"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to small
- The graph should be allowed to extend past the viewport

## Test 43

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should be allowed to extend past the viewport

## Test 44

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should be allowed to extend past the viewport

## Test 45

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should be allowed to extend past the viewport

## Test 46

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu

should toggle off, if expression data sheets are present in input workbook

- The viewport size should be set to medium
- The graph should be allowed to extend past the viewport

## Test 47

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should be allowed to extend past the viewport

## Test 48

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Medium"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to medium
- The graph should be allowed to extend past the viewport

## Test 49

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should be allowed to extend past the viewport

## Test 50

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should be allowed to extend past the viewport

## Test 51

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should be allowed to extend past the viewport

## Test 52

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should be allowed to extend past the viewport

## Test 53

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should be allowed to extend past the viewport

## Test 54

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Large"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should be set to large
- The graph should be allowed to extend past the viewport

## Test 55

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should be allowed to extend past the viewport

## Test 56

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should be allowed to extend past the viewport

## Test 57

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Check
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become enabled, and Node Coloring Toggle Button text in sidebar menu should toggle on, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should be allowed to extend past the viewport

## Test 58

Instructions:

- Sidebar Menu: Grid Layout - Keep at Default
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should default to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should be allowed to extend past the viewport

## Test 59

Instructions:

- Sidebar Menu: Grid Layout - Click Grid Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to grid layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu

- should toggle off, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should be allowed to extend past the viewport

## Test 60

Instructions:

- Sidebar Menu: Grid Layout - Click Force Graph Layout Button
- Dropdown Menu: Node -> Enable Node Coloring - Uncheck
- Dropdown Menu: View -> Viewport Size - Check "Fit to Window"
- Dropdown Menu: View -> Restrict Graph to Viewport - Uncheck

Results:

- The graph should change to force graph layout
- Node coloring should become disabled, and Node Coloring Toggle Button text in sidebar menu should toggle off, if expression data sheets are present in input workbook
- The viewport size should automatically be set to the size of the browser window
- The graph should be allowed to extend past the viewport