

Package ‘interacCircos’

October 11, 2022

Type Package

Title The Generation of Interactive Circos Plot

Description Implement in an efficient approach to display the genomic data, relationship, information in an interactive circular genome(Circos) plot. 'interacCircos' are inspired by 'circosJS', 'BioCircos.js' and 'NG-Circos' and we integrate the modules of 'circosJS', 'BioCircos.js' and 'NG-Circos' into this R package, based on 'htmlwidgets' framework.

Version 1.6.0

License GPL-3

Encoding UTF-8

LazyData true

Depends R (>= 4.1)

Imports RColorBrewer, htmlwidgets, plyr, methods

RoxygenNote 7.1.1

Suggests knitr, rmarkdown

VignetteBuilder knitr

biocViews Visualization

git_url <https://git.bioconductor.org/packages/interacCircos>

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arcExample	<i>Arc plot example data</i>
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Description

The data is in matrix with column names

Usage

```
arcExample
```

Format

A data frame with 7 columns:

chr chromosome

start start position

end end position

color color

des description

link hyperlink

html The external html language

bubbleExample	<i>Bubble plot example data</i>
---------------	---------------------------------

Description

The data is in matrix with column names

Usage

bubbleExample

Format

A data frame with 8 columns:

chr chromosome

start start position

end end position

name name for description

value value

color specified color for bubble

layer layer number

html The external html language

chord.pExample	<i>Example data of chord plot of circosJS</i>
----------------	---

Description

The data is in matrix with column names

Usage

```
chord.pExample
```

Format

A data frame in which each row represents the relationship from one genome position(source) to another one(target):

source_chr chromosome name of source

source_start start position of source

source_end end position of source

target_chr chromosome name of target

target_start start position of target

target_end end position of target

chordExample	<i>Example data of chord plot of NG-Circos</i>
--------------	--

Description

The data is in matrix with column names. The order and number is same as column, representing the same items

Usage

```
chordExample
```

Format

A data frame in which each value represents the relationship from a column to a row:

C.CK Genome 1, the name for each arc

C.NPK Genome 2, the name for each arc

GC.CK Genome 2, the name for each arc

GC.NPK Genome 2, the name for each arc

Alphaproteobacteria Genome 2, the name for each arc
Betaproteobacteria Genome 2, the name for each arc
Gammaproteobacteria Genome 2, the name for each arc
Deltaproteobacteria Genome 8, the name for each arc
Acidobacteria Genome 9, the name for each arc
Actinobacteria Genome 10, the name for each arc
Bacteroidetes Genome 11, the name for each arc
Chloroflexi Genome 12, the name for each arc
Firmicutes Genome 13, the name for each arc
Gemmatimonadetes Genome 14, the name for each arc
Planctomycetes Genome 15, the name for each arc
Thaumarchaeota Genome 16, the name for each arc
Verrucomicrobia Genome 17, the name for each arc
Ascomycota Genome 18, the name for each arc
Basidiomycota Genome 19, the name for each arc
Zygomycota Genome 20, the name for each arc

Circos

interacCircos

Description

Visualization of Interactive Circos Plot

Usage

```

Circos(
  moduleList = CircosModuleList(),
  genome = "hg19",
  genome2 = "hg19",
  genomeFillColor = "Spectral",
  chrPad = 0.02,
  width = NULL,
  height = NULL,
  innerRadius = 216,
  outerRadius = 240,
  svgClassName = "interacCircos",
  displayGenomeBorder = TRUE,
  genomeBorderColor = "#000",
  genomeBorderSize = 0.5,
  genomeTicksDisplay = FALSE,
  genomeTicksLen = 5,

```

```
genomeTicksColor = "#000",
genomeTicksTextSize = "0.6em",
genomeTicksRealLength = TRUE,
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genomeTicksOffset = 0,
genomeLabelDisplay = TRUE,
genomeLabelTextSize = "10pt",
genomeLabelTextColor = "#000",
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genomeLabelDy = 0,
compareEvent = FALSE,
compareEventGroupGapRate = 0.1,
compareEventGroupDistance = 0,
zoom = TRUE,
TEXTModuleDragEvent = FALSE,
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CNVMouseLeaveColor = "pink",
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```

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WIGMouseOverLineStrokeColor = "none",
WIGMouseOverLineStrokeWidth = "none",
WIGMouseOverFillColor = "none",
WIGMouseOverTooltipsSetting = "style1",
WIGMouseOverTooltipsHtml = " ",
WIGMouseOverTooltipsPosition = "absolute",
WIGMouseOverTooltipsBackgroundColor = "white",
WIGMouseOverTooltipsBorderStyle = "solid",
WIGMouseOverTooltipsBorderWidth = 0,
WIGMouseOverTooltipsPadding = "3px",
WIGMouseOverTooltipsBorderRadius = "3px",
WIGMouseOverTooltipsOpacity = 1,
SCATTERxlink = FALSE,
SCATTERMouseEvent = TRUE,
SCATTERMouseClickDisplay = FALSE,
SCATTERMouseClickColor = "red",
SCATTERMouseClickCircleSize = 2,
SCATTERMouseClickCircleOpacity = 1,
SCATTERMouseClickCircleStrokeColor = "none",
SCATTERMouseClickCircleStrokeWidth = "none",
SCATTERMouseClickTextFromData = "fourth",
```

```
SCATTERMouseClickTextOpacity = 1,  
SCATTERMouseClickTextColor = "red",  
SCATTERMouseClickTextSize = 8,  
SCATTERMouseClickTextPostionX = 1,  
SCATTERMouseClickTextPostionY = 10,  
SCATTERMouseClickTextDrag = TRUE,  
SCATTERMouseDownDisplay = FALSE,  
SCATTERMouseDownColor = "red",  
SCATTERMouseDownCircleSize = 2,  
SCATTERMouseDownCircleOpacity = 1,  
SCATTERMouseDownCircleStrokeColor = "none",  
SCATTERMouseDownCircleStrokeWidth = "none",  
SCATTERMouseEnterDisplay = FALSE,  
SCATTERMouseEnterColor = "red",  
SCATTERMouseEnterCircleSize = 2,  
SCATTERMouseEnterCircleOpacity = 1,  
SCATTERMouseEnterCircleStrokeColor = "none",  
SCATTERMouseEnterCircleStrokeWidth = "none",  
SCATTERMouseLeaveDisplay = FALSE,  
SCATTERMouseLeaveColor = "red",  
SCATTERMouseLeaveCircleSize = 2,  
SCATTERMouseLeaveCircleOpacity = 1,  
SCATTERMouseLeaveCircleStrokeColor = "none",  
SCATTERMouseLeaveCircleStrokeWidth = "none",  
SCATTERMouseMoveDisplay = FALSE,  
SCATTERMouseMoveColor = "red",  
SCATTERMouseMoveCircleSize = 2,  
SCATTERMouseMoveCircleOpacity = 1,  
SCATTERMouseMoveCircleStrokeColor = "none",  
SCATTERMouseMoveCircleStrokeWidth = "none",  
SCATTERMouseOutDisplay = FALSE,  
SCATTERMouseOutAnimationTime = 500,  
SCATTERMouseOutColor = "red",  
SCATTERMouseOutCircleSize = 2,  
SCATTERMouseOutCircleOpacity = 1,  
SCATTERMouseOutCircleStrokeColor = "none",  
SCATTERMouseOutCircleStrokeWidth = "none",  
SCATTERMouseUpDisplay = FALSE,  
SCATTERMouseUpColor = "red",  
SCATTERMouseUpCircleSize = 2,  
SCATTERMouseUpCircleOpacity = 1,  
SCATTERMouseUpCircleStrokeColor = "none",  
SCATTERMouseUpCircleStrokeWidth = "none",  
SCATTERMouseOverDisplay = FALSE,  
SCATTERMouseOverColor = "red",  
SCATTERMouseOverCircleSize = 2,  
SCATTERMouseOverCircleOpacity = 1,  
SCATTERMouseOverCircleStrokeColor = "none",
```

```
SCATTERMouseOverCircleStrokeWidth = "none",
SCATTERMouseOverTooltipsSetting = "style1",
SCATTERMouseOverTooltipsHtml = " ",
SCATTERMouseOverTooltipsPosition = "absolute",
SCATTERMouseOverTooltipsBackgroundColor = "white",
SCATTERMouseOverTooltipsBorderStyle = "solid",
SCATTERMouseOverTooltipsBorderWidth = 0,
SCATTERMouseOverTooltipsPadding = "3px",
SCATTERMouseOverTooltipsBorderRadius = "3px",
SCATTERMouseOverTooltipsOpacity = 1,
ARCxlink = FALSE,
ARCMouseEvent = TRUE,
ARCMouseClickDisplay = FALSE,
ARCMouseClickColor = "red",
ARCMouseClickArcOpacity = 1,
ARCMouseClickArcStrokeColor = "none",
ARCMouseClickArcStrokeWidth = "none",
ARCMouseClickTextFromData = "fourth",
ARCMouseClickTextOpacity = 1,
ARCMouseClickTextColor = "red",
ARCMouseClickTextSize = 8,
ARCMouseClickTextPostionX = 1,
ARCMouseClickTextPostionY = 10,
ARCMouseClickTextDrag = TRUE,
ARCMouseDownDisplay = FALSE,
ARCMouseDownColor = "red",
ARCMouseDownArcOpacity = 1,
ARCMouseDownArcStrokeColor = "none",
ARCMouseDownArcStrokeWidth = "none",
ARCMouseEnterDisplay = FALSE,
ARCMouseEnterColor = "red",
ARCMouseEnterArcOpacity = 1,
ARCMouseEnterArcStrokeColor = "none",
ARCMouseEnterArcStrokeWidth = "none",
ARCMouseLeaveDisplay = FALSE,
ARCMouseLeaveColor = "red",
ARCMouseLeaveArcOpacity = 1,
ARCMouseLeaveArcStrokeColor = "none",
ARCMouseLeaveArcStrokeWidth = "none",
ARCMouseMoveDisplay = FALSE,
ARCMouseMoveColor = "red",
ARCMouseMoveArcOpacity = 1,
ARCMouseMoveArcStrokeColor = "none",
ARCMouseMoveArcStrokeWidth = "none",
ARCMouseOutDisplay = FALSE,
ARCMouseOutAnimationTime = 500,
ARCMouseOutColor = "red",
ARCMouseOutArcOpacity = 1,
```

```
ARCMouseOutArcStrokeColor = "none",
ARCMouseOutArcStrokeWidth = "none",
ARCMouseUpDisplay = FALSE,
ARCMouseUpColor = "red",
ARCMouseUpArcOpacity = 1,
ARCMouseUpArcStrokeColor = "none",
ARCMouseUpArcStrokeWidth = "none",
ARCMouseOverDisplay = FALSE,
ARCMouseOverColor = "red",
ARCMouseOverArcOpacity = 1,
ARCMouseOverArcStrokeColor = "none",
ARCMouseOverArcStrokeWidth = "none",
ARCMouseOverTooltipsSetting = "style1",
ARCMouseOverTooltipsHtml = " ",
ARCMouseOverTooltipsPosition = "absolute",
ARCMouseOverTooltipsBackgroundColor = "white",
ARCMouseOverTooltipsBorderStyle = "solid",
ARCMouseOverTooltipsBorderWidth = 0,
ARCMouseOverTooltipsPadding = "3px",
ARCMouseOverTooltipsBorderRadius = "3px",
ARCMouseOverTooltipsOpacity = 1,
GENExlink = FALSE,
GENEMouseEvent = TRUE,
GENEMouseClickDisplay = FALSE,
GENEMouseClickColor = "red",
GENEMouseClickArcOpacity = 1,
GENEMouseClickArcStrokeColor = "none",
GENEMouseClickArcStrokeWidth = "none",
GENEMouseClickTextFromData = "fourth",
GENEMouseClickTextOpacity = 1,
GENEMouseClickTextColor = "red",
GENEMouseClickTextSize = 8,
GENEMouseClickTextPostionX = 1,
GENEMouseClickTextPostionY = 10,
GENEMouseClickTextDrag = TRUE,
GENEMouseDownDisplay = FALSE,
GENEMouseDownColor = "red",
GENEMouseDownArcOpacity = 1,
GENEMouseDownArcStrokeColor = "none",
GENEMouseDownArcStrokeWidth = "none",
GENEMouseEnterDisplay = FALSE,
GENEMouseEnterColor = "red",
GENEMouseEnterArcOpacity = 1,
GENEMouseEnterArcStrokeColor = "none",
GENEMouseEnterArcStrokeWidth = "none",
GENEMouseLeaveDisplay = FALSE,
GENEMouseLeaveColor = "red",
GENEMouseLeaveArcOpacity = 1,
```

```
GENEMouseLeaveArcStrokeColor = "none",
GENEMouseLeaveArcStrokeWidth = "none",
GENEMouseMoveDisplay = FALSE,
GENEMouseMoveColor = "red",
GENEMouseMoveArcOpacity = 1,
GENEMouseMoveArcStrokeColor = "none",
GENEMouseMoveArcStrokeWidth = "none",
GENEMouseOutDisplay = FALSE,
GENEMouseOutAnimationTime = 500,
GENEMouseOutColor = "red",
GENEMouseOutArcOpacity = 1,
GENEMouseOutArcStrokeColor = "none",
GENEMouseOutArcStrokeWidth = "none",
GENEMouseUpDisplay = FALSE,
GENEMouseUpColor = "red",
GENEMouseUpArcOpacity = 1,
GENEMouseUpArcStrokeColor = "none",
GENEMouseUpArcStrokeWidth = "none",
GENEMouseOverDisplay = FALSE,
GENEMouseOverColor = "red",
GENEMouseOverArcOpacity = 1,
GENEMouseOverArcStrokeColor = "none",
GENEMouseOverArcStrokeWidth = "none",
GENEMouseOverTooltipsSetting = "style1",
GENEMouseOverTooltipsHtml = " ",
GENEMouseOverTooltipsPosition = "absolute",
GENEMouseOverTooltipsBackgroundColor = "white",
GENEMouseOverTooltipsBorderStyle = "solid",
GENEMouseOverTooltipsBorderWidth = 0,
GENEMouseOverTooltipsPadding = "3px",
GENEMouseOverTooltipsBorderRadius = "3px",
GENEMouseOverTooltipsOpacity = 1,
LOLLIPOPxlink = FALSE,
LOLLIPOPMouseEvent = TRUE,
LOLLIPOPMouseClickedDisplay = FALSE,
LOLLIPOPMouseClickedColor = "red",
LOLLIPOPMouseClickedCircleSize = 2,
LOLLIPOPMouseClickedCircleOpacity = 1,
LOLLIPOPMouseClickedCircleStrokeColor = "none",
LOLLIPOPMouseClickedCircleStrokeWidth = "none",
LOLLIPOPMouseClickedTextFromData = "fourth",
LOLLIPOPMouseClickedTextOpacity = 1,
LOLLIPOPMouseClickedTextColor = "red",
LOLLIPOPMouseClickedTextSize = 8,
LOLLIPOPMouseClickedTextPostionX = 1,
LOLLIPOPMouseClickedTextPostionY = 10,
LOLLIPOPMouseClickedTextDrag = TRUE,
LOLLIPOPMouseDownDisplay = FALSE,
```

```
LOLLIPOPMouseDownColor = "red",
LOLLIPOPMouseDownCircleSize = 2,
LOLLIPOPMouseDownCircleOpacity = 1,
LOLLIPOPMouseDownCircleStrokeColor = "none",
LOLLIPOPMouseDownCircleStrokeWidth = "none",
LOLLIPOPMouseEnterDisplay = FALSE,
LOLLIPOPMouseEnterColor = "red",
LOLLIPOPMouseEnterCircleSize = 2,
LOLLIPOPMouseEnterCircleOpacity = 1,
LOLLIPOPMouseEnterCircleStrokeColor = "none",
LOLLIPOPMouseEnterCircleStrokeWidth = "none",
LOLLIPOPMouseLeaveDisplay = FALSE,
LOLLIPOPMouseLeaveColor = "red",
LOLLIPOPMouseLeaveCircleSize = 2,
LOLLIPOPMouseLeaveCircleOpacity = 1,
LOLLIPOPMouseLeaveCircleStrokeColor = "none",
LOLLIPOPMouseLeaveCircleStrokeWidth = "none",
LOLLIPOPMouseMoveDisplay = FALSE,
LOLLIPOPMouseMoveColor = "red",
LOLLIPOPMouseMoveCircleSize = 2,
LOLLIPOPMouseMoveCircleOpacity = 1,
LOLLIPOPMouseMoveCircleStrokeColor = "none",
LOLLIPOPMouseMoveCircleStrokeWidth = "none",
LOLLIPOPMouseOutDisplay = FALSE,
LOLLIPOPMouseOutAnimationTime = 500,
LOLLIPOPMouseOutColor = "red",
LOLLIPOPMouseOutCircleSize = 2,
LOLLIPOPMouseOutCircleOpacity = 1,
LOLLIPOPMouseOutCircleStrokeColor = "none",
LOLLIPOPMouseOutCircleStrokeWidth = "none",
LOLLIPOPMouseUpDisplay = FALSE,
LOLLIPOPMouseUpColor = "red",
LOLLIPOPMouseUpCircleSize = 2,
LOLLIPOPMouseUpCircleOpacity = 1,
LOLLIPOPMouseUpCircleStrokeColor = "none",
LOLLIPOPMouseUpCircleStrokeWidth = "none",
LOLLIPOPMouseOverDisplay = FALSE,
LOLLIPOPMouseOverColor = "red",
LOLLIPOPMouseOverCircleSize = 2,
LOLLIPOPMouseOverCircleOpacity = 1,
LOLLIPOPMouseOverCircleStrokeColor = "none",
LOLLIPOPMouseOverCircleStrokeWidth = "none",
LOLLIPOPMouseOverTooltipsSetting = "style1",
LOLLIPOPMouseOverTooltipsHtml = " ",
LOLLIPOPMouseOverTooltipsPosition = "absolute",
LOLLIPOPMouseOverTooltipsBackgroundColor = "white",
LOLLIPOPMouseOverTooltipsBorderStyle = "solid",
LOLLIPOPMouseOverTooltipsBorderWidth = 0,
```

```

LOLLIPOPMouseOverTooltipsPadding = "3px",
LOLLIPOPMouseOverTooltipsBorderRadius = "3px",
LOLLIPOPMouseOverTooltipsOpacity = 1,
elementId = NULL,
...
)

```

Arguments

moduleList	Module list displayed in plot
genome	Could be either 'hg19', which is defaultly set to use chromosomes of hg19, or a list of chromosomes with length, for example, list("chr1"=100,"chr2"=200)
genome2	Second genome when compare module is applied, format is same as genome
genomeFillColor	Could be either a color palette from RColorBrewer, or a list of color name, for example, list("yellow","rgb(1,255,255)")
chrPad	Distance between each chromosome, default is 0.04
width, height	The width and height for svg element, could be px or percent or auto
innerRadius	Default 216, Inner radius of chromosome
outerRadius	Default 240, Outer radius of chromosome
svgClassName	The svg class name
displayGenomeBorder	Whether display a border for genome track or not
genomeBorderColor, genomeBorderSize	The color and size for border of genome
genomeTicksDisplay	Whether display the ticks for genome track
genomeTicksLen, genomeTicksColor, genomeTicksTextSize, genomeTicksTextColor, genomeTicksScale, genomeTicksFontWeight	Parameters only works when genomeTicksDisplay is TRUE and their details are available on document
genomeLabelDisplay, genomeLabelTextSize, genomeLabelTextColor, genomeLabelDx, genomeLabelDy	Whether display the label for chromosome panel. Other parameters only works when genomeTicksDisplay is TRUE and their details are available on document
compareEvent	Default False, open/not COMPARE module
compareEventGroupGapRate	Default 0.1, control the two-side gap rate on each group of genome
compareEventGroupDistance	Default 0, distance between two groups of genome
zoom	Whether or not the plot is zoomable?
TEXTModuleDragEvent	Are text annotations draggable?
CNVxlink	Default False, add/not xlink for CNV module
CNVMouseEvent	Default True, open/not open mouse event of CNV module

CNVMouseClickedDisplay
Default False, show/not the tooltip when mouse click on a CNV point

CNVMouseClickedColor
Color when mouse clicking

CNVMouseClickedArcOpacity
Arc opacity when mouse clicking the element

CNVMouseClickedArcStrokeColor
Arc stroke color when mouse clicking the element

CNVMouseClickedArcStrokeWidth
Arc stroke width when mouse clicking the element

CNVMouseClickedTextFromData
Text column when mouse clicking the element

CNVMouseClickedTextOpacity
Text opacity when mouse clicking the element

CNVMouseClickedTextColor
Text color when mouse clicking the element

CNVMouseClickedTextSize
Text size when mouse clicking the element

CNVMouseClickedTextPostionX, CNVMouseClickedTextPostionY
Text coordinates when mouse clicking the element

CNVMouseClickedTextDrag
Whether text is draggable when mouse clicking the element

CNVMouseDownDisplay
Default False, show/not the tooltip when mouse click down a CNV point

CNVMouseDownColor
Color when mouse moving down the element

CNVMouseDownArcOpacity
Arc opacity when mouse moving down the element

CNVMouseDownArcStrokeColor
Arc stroke color when mouse moving down the element

CNVMouseDownArcStrokeWidth
Arc stroke width when mouse moving down the element

CNVMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a CNV point

CNVMouseEnterColor
Color when mouse entering the element

CNVMouseEnterArcOpacity
Arc opacity when mouse entering the element

CNVMouseEnterArcStrokeColor
Arc stroke color when mouse entering the element

CNVMouseEnterArcStrokeWidth
Arc stroke width when mouse entering the element

CNVMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a CNV point

CNVMouseLeaveColor
Color when mouse leaving the element

CNVMouseLeaveArcOpacity
Arc opacity when mouse leaving the element

CNVMouseLeaveArcStrokeColor
Arc stroke color when mouse leaving the element

CNVMouseLeaveArcStrokeWidth
Arc stroke width when mouse leaving the element

CNVMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a CNV point

CNVMouseMoveColor
Color when mouse moving in the element

CNVMouseMoveArcOpacity
Arc opacity when mouse moving in the element

CNVMouseMoveArcStrokeColor
Arc stroke color when mouse moving in the element

CNVMouseMoveArcStrokeWidth
Arc stroke width when mouse moving in the element

CNVMouseOutDisplay
Default False, hide/not tooltip when mouse is not hovering a CNV point anymore

CNVMouseOutAnimationTime
Animation time when mouse moving out the element

CNVMouseOutColor
Color when mouse moving out the element

CNVMouseOutArcOpacity
Arc opacity when mouse moving out the element

CNVMouseOutArcStrokeColor
Arc stroke color when mouse moving out the element

CNVMouseOutArcStrokeWidth
Arc stroke width when mouse moving out the element

CNVMouseUpDisplay
Default False, show/not the tooltip when mouse click up a CNV point

CNVMouseUpColor
Color when mouse moving up the element

CNVMouseUpArcOpacity
Arc opacity when mouse clicking the element

CNVMouseUpArcStrokeColor
Arc stroke color when mouse clicking the element

CNVMouseUpArcStrokeWidth
Arc stroke width when mouse clicking the element

CNVMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a CNV point

CNVMouseOverColor
Color when mouse moving over the element

CNVMouseOverArcOpacity	Arc opacity when mouse moving over the element
CNVMouseOverArcStrokeColor	Arc stroke color when mouse moving over the element
CNVMouseOverArcStrokeWidth	Arc stroke width when mouse moving over the element
CNVMouseOverTooltipsSetting	Default "style1"
CNVMouseOverTooltipsHtml	Default " "
CNVMouseOverTooltipsPosition	Default "absolute"
CNVMouseOverTooltipsBackgroundColor	Default "white"
CNVMouseOverTooltipsBorderStyle	Default "solid"
CNVMouseOverTooltipsBorderWidth	Default 0
CNVMouseOverTooltipsPadding	Default "3px"
CNVMouseOverTooltipsBorderRadius	Default "3px"
CNVMouseOverTooltipsOpacity	Default 0.8
HEATMAPMouseEvent	Default True, open/not open mouse event of HEATMAP module
HEATMAPMouseClickedDisplay	Default False, show/not the tooltip when mouse click on a HEATMAP point
HEATMAPMouseClickedColor	Color when mouse clicking
HEATMAPMouseClickedOpacity	Opacity when mouse clicking
HEATMAPMouseClickedStrokeColor	Stroke color when mouse clicking
HEATMAPMouseClickedStrokeWidth	Stroke width when mouse clicking
HEATMAPMouseDownDisplay	Default False, show/not the tooltip when mouse click down a HEATMAP point
HEATMAPMouseDownColor	Color when mouse moving down the element
HEATMAPMouseDownOpacity	Opacity when mouse moving down the element
HEATMAPMouseDownStrokeColor	Stroke color when mouse moving down the element
HEATMAPMouseDownStrokeWidth	Stroke width when mouse moving down the element

HEATMAPMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a HEATMAP point

HEATMAPMouseEnterColor
Color when mouse entering the element

HEATMAPMouseEnterOpacity
Opacity when mouse entering the element

HEATMAPMouseEnterStrokeColor
Stroke color when mouse entering the element

HEATMAPMouseEnterStrokeWidth
Stroke width when mouse entering the element

HEATMAPMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a HEATMAP point

HEATMAPMouseLeaveColor
Color when mouse leaving the element

HEATMAPMouseLeaveOpacity
Opacity when mouse leaving the element

HEATMAPMouseLeaveStrokeColor
Stroke color when mouse leaving the element

HEATMAPMouseLeaveStrokeWidth
Stroke width when mouse leaving the element

HEATMAPMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a HEATMAP point

HEATMAPMouseMoveColor
Color when mouse moving in the element

HEATMAPMouseMoveOpacity
Opacity when mouse moving in the element

HEATMAPMouseMoveStrokeColor
Stroke color when mouse moving in the element

HEATMAPMouseMoveStrokeWidth
Stroke width when mouse moving in the element

HEATMAPMouseOutDisplay
Defalut False, hide/not tooltip when mouse is not hovering a HEATMAP point anymore

HEATMAPMouseOutAnimationTime
Animation time when mouse moving out the element

HEATMAPMouseOutColor
Color when mouse moving out the element

HEATMAPMouseOutOpacity
Opacity when mouse moving out the element

HEATMAPMouseOutStrokeColor
Stroke color when mouse moving out the element

HEATMAPMouseOutStrokeWidth
Stroke width when mouse moving out the element

HEATMAPMouseUpDisplay
Default False, show/not the tooltip when mouse click up a HEATMAP point

HEATMAPMouseUpColor
Color when mouse moving up the element

HEATMAPMouseUpOpacity
Opacity when mouse moving up the element

HEATMAPMouseUpStrokeColor
Stroke color when mouse moving up the element

HEATMAPMouseUpStrokeWidth
Stroke width when mouse moving up the element

HEATMAPMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a HEATMAP point

HEATMAPMouseOverColor
Color when mouse moving over the element

HEATMAPMouseOverOpacity
Opacity when mouse moving over the element

HEATMAPMouseOverStrokeColor
Stroke color when mouse moving over the element

HEATMAPMouseOverStrokeWidth
Stroke width when mouse moving over the element

HEATMAPMouseOverTooltipsSetting
Default "style1"

HEATMAPMouseOverTooltipsHtml
Default " "

HEATMAPMouseOverTooltipsPosition
Default "absolute"

HEATMAPMouseOverTooltipsBackgroundColor
Default "white"

HEATMAPMouseOverTooltipsBorderStyle
Default "solid"

HEATMAPMouseOverTooltipsBorderWidth
Default 0

HEATMAPMouseOverTooltipsPadding
Default "3px"

HEATMAPMouseOverTooltipsBorderRadius
Default "3px"

HEATMAPMouseOverTooltipsOpacity
Default 0.8

BUBBLExlink Default False, add/not xlink for BUBBLE module

BUBBLEMouseEvent
Default True, open/not open mouse event of BUBBLE module

BUBBLEMouseClickedDisplay
Default False, show/not the tooltip when mouse click on a BUBBLE point

BUBBLEMouseClickedColor
Color when mouse clicking

BUBBLEMouseClickedOpacity
Opacity when mouse clicking

BUBBLEMouseClickStrokeColor
Stroke color when mouse clicking

BUBBLEMouseClickStrokeWidth
Stroke width when mouse clicking

BUBBLEMouseDownDisplay
Default False, show/not the tooltip when mouse click down a BUBBLE point

BUBBLEMouseDownColor
Color when mouse moving down the element

BUBBLEMouseDownOpacity
Opacity when mouse moving down the element

BUBBLEMouseDownStrokeColor
Stroke color when mouse moving down the element

BUBBLEMouseDownStrokeWidth
Stroke width when mouse moving down the element

BUBBLEMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a BUBBLE point

BUBBLEMouseEnterColor
Color when mouse entering the element

BUBBLEMouseEnterOpacity
Opacity when mouse entering the element

BUBBLEMouseEnterStrokeColor
Stroke color when mouse entering the element

BUBBLEMouseEnterStrokeWidth
Stroke width when mouse entering the element

BUBBLEMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a BUBBLE point

BUBBLEMouseLeaveColor
Color when mouse leaving the element

BUBBLEMouseLeaveOpacity
Opacity when mouse leaving the element

BUBBLEMouseLeaveStrokeColor
Stroke color when mouse leaving the element

BUBBLEMouseLeaveStrokeWidth
Stroke width when mouse leaving the element

BUBBLEMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a BUBBLE point

BUBBLEMouseMoveColor
Color when mouse moving in the element

BUBBLEMouseMoveOpacity
Opacity when mouse moving in the element

BUBBLEMouseMoveStrokeColor
Stroke color when mouse moving in the element

BUBBLEMouseMoveStrokeWidth
Stroke width when mouse moving in the element

BUBBLEMouseOutDisplay
Default False, hide/not tooltip when mouse is not hovering a BUBBLE point anymore

BUBBLEMouseOutAnimationTime
Animation time when mouse moving out the element

BUBBLEMouseOutColor
Color when mouse moving out the element

BUBBLEMouseOutOpacity
Opacity when mouse moving out the element

BUBBLEMouseOutStrokeColor
Stroke color when mouse moving out the element

BUBBLEMouseOutStrokeWidth
Stroke width when mouse moving out the element

BUBBLEMouseUpDisplay
Default False, show/not the tooltip when mouse click up a BUBBLE point

BUBBLEMouseUpColor
Color when mouse moving up the element

BUBBLEMouseUpOpacity
Opacity when mouse moving up the element

BUBBLEMouseUpStrokeColor
Stroke color when mouse moving up the element

BUBBLEMouseUpStrokeWidth
Stroke width when mouse moving up the element

BUBBLEMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a BUBBLE point

BUBBLEMouseOverColor
Color when mouse moving over the element

BUBBLEMouseOverOpacity
Opacity when mouse moving over the element

BUBBLEMouseOverStrokeColor
Stroke color when mouse moving over the element

BUBBLEMouseOverStrokeWidth
Stroke width when mouse moving over the element

BUBBLEMouseOverTooltipsSetting
Default "style1"

BUBBLEMouseOverTooltipsHtml
Default " "

BUBBLEMouseOverTooltipsPosition
Default "absolute"

BUBBLEMouseOverTooltipsBackgroundColor
Default "white"

BUBBLEMouseOverTooltipsBorderStyle
Default "solid"

BUBBLEMouseOverTooltipsBorderWidth
Default 0

BUBBLEMouseOverTooltipsPadding
 Default "3px"
 BUBBLEMouseOverTooltipsBorderRadius
 Default "3px"
 BUBBLEMouseOverTooltipsOpacity
 Default 0.8
 SNPxlink Default False, add/not xlink for SNP module
 SNPMouseEvent Default True, open/not open mouse event of SNP module
 SNPMouseCombinationEvent
 Default False, open/not COMBINATION module for SNP module
 SNPMouseCombinationImageDisplay
 Default False, open/not image display in COMBINATION module for SNP
 module
 SNPMouseCombinationImageTitle
 Title of the image
 SNPMouseCombinationImageTitleSize, SNPMouseCombinationImageTitleWeight, SNPMouseCombinationImageTitleColor
 Size, weight and color of the title
 SNPMouseCombinationImagePositionX, SNPMouseCombinationImagePositionY
 Coordinates for image
 SNPMouseCombinationImageHeight, SNPMouseCombinationImageWidth
 Height and width of image
 SNPMouseCombinationGraphDisplay
 Default False, open/not graph display in COMBINATION module for SNP module
 SNPMouseCombinationGraphTitle
 Title of the graph
 SNPMouseCombinationGraphTitleSize, SNPMouseCombinationGraphTitleWeight, SNPMouseCombinationGraphTitleColor
 Size, weight and color of the title
 SNPMouseCombinationGraphType
 Type of graph
 SNPMouseCombinationGraphPositionX, SNPMouseCombinationGraphPositionY
 Coordinates for graph
 SNPMouseCombinationGraphHeight, SNPMouseCombinationGraphWidth
 Height and width for graph
 SNPMouseCombinationGraphHistogramBarColor
 Bar color of histogram graph
 SNPMouseCombinationGraphHistogramPadding
 Padding between bar of histogram graph
 SNPMouseCombinationGraphHistogramPositionCorrectX
 Correction distance of X axis in histogram
 SNPMouseCombinationGraphPieAutoColor
 Whether use auto color for pie graph or not
 SNPMouseCombinationGraphPieColor
 Color for pie graph if auto color is false

SNPMouseCombinationGraphPieSize
Size of pie graph

SNPMouseCombinationGraphPieStroke
Whether each pie has a stroke or not

SNPMouseCombinationGraphPieStrokeColor, SNPMouseCombinationGraphPieStrokeWidth
The stroke color and width for pie graph

SNPMouseCombinationGraphPieOpacity
Opacity for pie graph

SNPMouseCombinationGraphLineType, SNPMouseCombinationGraphLineColor, SNPMouseCombinationGraphLineWidth
Line type, color and width for line graph

SNPMouseCombinationGraphLinePoint
Whether display the broken point in line graph

SNPMouseCombinationGraphLinePointSize
Size of broken point

SNPMouseCombinationGraphLinePointAutoColor
Whether display the broken point in auto color

SNPMouseCombinationGraphLinePointColor
Color for broken point if auto color is false

SNPMouseCombinationGraphLinePointStroke
Whether display the broken point stroke

SNPMouseCombinationGraphLinePointStrokeColor, SNPMouseCombinationGraphLinePointStrokeWidth
The stroke color and width for broken point

SNPMouseCombinationGraphLinePointOpacity
Opacity for broken line

SNPMouseCombinationGraphLinePositionCorrectX
Correction distance of X axis for line

SNPMouseCombinationTextDisplay
Default False, open/not text display in COMBINATION module for SNP module

SNPMouseCombinationTextColor, SNPMouseCombinationTextSize, SNPMouseCombinationTextWeight
The color, size and weight for text

SNPMouseCombinationTextPositionCorrectX, SNPMouseCombinationTextPositionCorrectY
The coordinates for text

SNPMouseClickDisplay
Default False, show/not the tooltip when mouse click on a SNP point

SNPMouseClickColor
Color after clicking the element

SNPMouseClickCircleSize
Circle size after clicking the element

SNPMouseClickCircleOpacity
Opacity after clicking the element

SNPMouseClickCircleStrokeColor
Stroke color after clicking the element

SNPMouseClickCircleStrokeWidth
Stroke width after clicking the element

SNPMouseClickTextFromData
First,second,third,fourth column data click to show

SNPMouseClickTextOpacity
Text opacity after clicking the element

SNPMouseClickTextColor
Text color after clicking the element

SNPMouseClickTextSize
Text size after clicking the element

SNPMouseClickTextPostionX, SNPMouseClickTextPostionY
Text coordinate after clicking the element

SNPMouseClickTextDrag
Whether text is draggable for element

SNPMouseDownDisplay
Default False, show/not the tooltip when mouse click down a SNP point

SNPMouseDownColor
Color after mouse moving down the element

SNPMouseDownCircleSize
Circle size after mouse moving down the element

SNPMouseDownCircleOpacity
Circle opacity after mouse moving down the element

SNPMouseDownCircleStrokeColor
Circle stroke color after mouse moving down the element

SNPMouseDownCircleStrokeWidth
Circle stroke width after mouse moving down the element

SNPMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a SNP point

SNPMouseEnterColor
Color after mouse entering enter the element

SNPMouseEnterCircleSize
Circle size after mouse entering the element

SNPMouseEnterCircleOpacity
Circle opacity after mouse entering the element

SNPMouseEnterCircleStrokeColor
Circle stroke color after mouse entering the element

SNPMouseEnterCircleStrokeWidth
Circle stroke width after mouse entering the element

SNPMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a SNP point

SNPMouseLeaveColor
Color after mouse leaving the element

SNPMouseLeaveCircleSize
Circle size after mouse leaving the element

SNPMouseLeaveCircleOpacity
Circle opacity after mouse leaving the element

SNPMouseLeaveCircleStrokeColor	Circle stroke color after mouse leaving the element
SNPMouseLeaveCircleStrokeWidth	Circle stroke width after mouse leaving the element
SNPMouseMoveDisplay	Default False, show/not the tooltip when mouse move into a SNP point
SNPMouseMoveColor	Color after mouse moving in the element
SNPMouseMoveCircleSize	Circle size after mouse moving in the element
SNPMouseMoveCircleOpacity	Circle opacity after mouse moving in the element
SNPMouseMoveCircleStrokeColor	Circle stroke color after mouse moving in the element
SNPMouseMoveCircleStrokeWidth	Circle stroke width after mouse moving in the element
SNPMouseOutDisplay	Default False, hide/not tooltip when mouse is not hovering a SNP point anymore
SNPMouseOutAnimationTime	Animation time when mouse moving over the element
SNPMouseOutColor	Color when mouse moving over the element
SNPMouseOutCircleSize	Circle size when mouse moving over the element
SNPMouseOutCircleOpacity	Opacity when mouse moving over the element
SNPMouseOutCircleStrokeColor	Stroke color when mouse moving over the element
SNPMouseOutCircleStrokeWidth	Stroke width when mouse moving over the element
SNPMouseUpDisplay	Default False, show/not the tooltip when mouse click up a SNP point
SNPMouseUpColor	Color after mouse moving up the element
SNPMouseUpCircleSize	Circle size after mouse moving up the element
SNPMouseUpCircleOpacity	Circle opacity after mouse moving up the element
SNPMouseUpCircleStrokeColor	Circle stroke color after mouse moving up the element
SNPMouseUpCircleStrokeWidth	Circle stroke width after mouse moving up the element
SNPMouseOverDisplay	Default False, show/not the tooltip when mouse hover on a SNP point

SNPMouseOverColor	Color after mouse moving over the element
SNPMouseOverCircleSize	Circle size after mouse moving over the element
SNPMouseOverCircleOpacity	Circle opacity after mouse moving over the element
SNPMouseOverCircleStrokeColor	Circle stroke color after mouse moving over the element
SNPMouseOverCircleStrokeWidth	Circle stroke width after mouse moving over the element
SNPMouseOverTooltipsSetting	Default "chr : "
SNPMouseOverTooltipsHtml	Default " "
SNPMouseOverTooltipsPosition	Position for tooltips when mouse moving over
SNPMouseOverTooltipsBackgroundColor	Background color for tooltips when mouse moving over
SNPMouseOverTooltipsBorderStyle	Border style for tooltips when mouse moving over
SNPMouseOverTooltipsBorderWidth	Border width for tooltips when mouse moving over
SNPMouseOverTooltipsPadding	Padding for tooltips when mouse moving over
SNPMouseOverTooltipsBorderRadius	Border radius for tooltips when mouse moving over
SNPMouseOverTooltipsOpacity	Opacity for tooltips when mouse moving over
LINKxlink	Default False, add/not xlink for LINK module
LINKMouseEvent	Default True, open/not open mouse event of LINK module
LINKMouseClickedDisplay	Default False, show/not the tooltip when mouse click on a LINK point
LINKMouseClickedOpacity	Opacity when mouse clicking
LINKMouseClickedStrokeColor	Stroke color when mouse clicking
LINKMouseClickedStrokeWidth	Stroke width when mouse clicking
LINKMouseDownDisplay	Default False, show/not the tooltip when mouse click down a LINK point
LINKMouseDownOpacity	Opacity when mouse moving down the element
LINKMouseDownStrokeColor	Stroke color when mouse moving down the element

LINKMouseDownStrokeWidth	Stroke width when mouse moving down the element
LINKMouseEnterDisplay	Default False, show/not the tooltip when mouse mover over a LINK point
LINKMouseEnterOpacity	Opacity when mouse entering the element
LINKMouseEnterStrokeColor	Stroke color when mouse entering the element
LINKMouseEnterStrokeWidth	Stroke width when mouse entering the element
LINKMouseLeaveDisplay	Default False, show/not the tooltip when mouse mover leave a LINK point
LINKMouseLeaveOpacity	Opacity when mouse leaving the element
LINKMouseLeaveStrokeColor	Stroke color when mouse leaving the element
LINKMouseLeaveStrokeWidth	Stroke width when mouse leaving the element
LINKMouseMoveDisplay	Default False, show/not the tooltip when mouse move into a LINK point
LINKMouseMoveOpacity	Opacity when mouse moving in the element
LINKMouseMoveStrokeColor	Stroke color when mouse moving in the element
LINKMouseMoveStrokeWidth	Stroke width when mouse moving in the element
LINKMouseOutDisplay	Defalut False, hide/not tooltip when mouse is not hovering a LINK point any- more
LINKMouseOutAnimationTime	Animation time when mouse moving out the element
LINKMouseOutOpacity	Opacity when mouse moving out the element
LINKMouseOutStrokeColor	Stroke color when mouse moving out the element
LINKMouseOutStrokeWidth	Stroke width when mouse moving out the element
LINKMouseUpDisplay	Default False, show/not the tooltip when mouse click up a LINK point
LINKMouseUpOpacity	Opacity when mouse moving up the element
LINKMouseUpStrokeColor	Stroke color when mouse moving up the element
LINKMouseUpStrokeWidth	Stroke width when mouse moving up the element

LINKMouseOverDisplay
 Default False, show/not the tooltip when mouse hover on a LINK point
 LINKMouseOverOpacity
 Opacity when mouse moving over the element
 LINKMouseOverStrokeColor
 Stroke color when mouse moving over the element
 LINKMouseOverStrokeWidth
 Stroke width when mouse moving over the element
 LINKMouseOverTooltipsSetting
 Default "style1"
 LINKMouseOverTooltipsHtml
 Default " "
 LINKMouseOverTooltipsPosition
 Default "absolute"
 LINKMouseOverTooltipsBackgroundColor
 Default "white"
 LINKMouseOverTooltipsBorderStyle
 Default "solid"
 LINKMouseOverTooltipsBorderWidth
 Default 0
 LINKMouseOverTooltipsPadding
 Default "3px"
 LINKMouseOverTooltipsBorderRadius
 Default "3px"
 LINKMouseOverTooltipsOpacity
 Default 0.8
 LINKLabelDragEvent
 Default False, draggable for the label of LINK module
 CHORDMouseEvent
 Default True, open/not open mouse event of CHORD module from NG-Circos
 CHORDMouseFillColorExcluded
 A type of color in character, chord in this color will be hided
 CHORDMouseClickedDisplay
 Default False, show/not the tooltip when mouse click on a CHORD point
 CHORDMouseClickedOpacity
 Opacity when mouse clicking
 CHORDMouseClickedStrokeColor
 Stroke color when mouse clicking
 CHORDMouseClickedStrokeWidth
 Stroke width when mouse clicking
 CHORDMouseDownDisplay
 Default False, show/not the tooltip when mouse click down a CHORD point
 CHORDMouseDownOpacity
 Opacity when mouse moving down the element
 CHORDMouseDownStrokeColor
 Stroke color when mouse moving down the element

CHORDMouseDownStrokeWidth	Stroke width when mouse moving down the element
CHORDMouseEnterDisplay	Default False, show/not the tooltip when mouse mover over a CHORD point
CHORDMouseEnterOpacity	Opacity when mouse entering the element
CHORDMouseEnterStrokeColor	Stroke color when mouse entering the element
CHORDMouseEnterStrokeWidth	Stroke width when mouse entering the element
CHORDMouseLeaveDisplay	Default False, show/not the tooltip when mouse mover leave a CHORD point
CHORDMouseLeaveOpacity	Opacity when mouse leaving the element
CHORDMouseLeaveStrokeColor	Stroke color when mouse leaving the element
CHORDMouseLeaveStrokeWidth	Stroke width when mouse leaving the element
CHORDMouseMoveDisplay	Default False, show/not the tooltip when mouse move into a CHORD point
CHORDMouseMoveOpacity	Opacity when mouse moving in the element
CHORDMouseMoveStrokeColor	Stroke color when mouse moving in the element
CHORDMouseMoveStrokeWidth	Stroke width when mouse moving in the element
CHORDMouseOutDisplay	Defalut False, hide/not tooltip when mouse is not hovering a CHORD point anymore
CHORDMouseOutAnimationTime	Animation time when mouse moving out the element
CHORDMouseOutOpacity	Opacity when mouse moving out the element
CHORDMouseOutStrokeColor	Stroke color when mouse moving out the element
CHORDMouseOutStrokeWidth	Stroke width when mouse moving out the element
CHORDMouseUpDisplay	Default False, show/not the tooltip when mouse click up a CHORD point
CHORDMouseUpOpacity	Opacity when mouse moving up the element
CHORDMouseUpStrokeColor	Stroke color when mouse moving up the element
CHORDMouseUpStrokeWidth	Stroke width when mouse moving up the element

CHORDMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a CHORD point

CHORDMouseOverOpacity
Opacity when mouse moving over the element

CHORDMouseOverStrokeColor
Stroke color when mouse moving over the element

CHORDMouseOverStrokeWidth
Stroke width when mouse moving over the element

HISTOGRAMxlink Default False, add/not xlink for HISTOGRAM module

HISTOGRAMMouseEvent
Default True, open/not open mouse event of HISTOGRAM module

HISTOGRAMMouseClickedDisplay
Default False, show/not the tooltip when mouse click on a HISTOGRAM point

HISTOGRAMMouseClickedColor
Color when mouse clicking

HISTOGRAMMouseClickedOpacity
Opacity when mouse clicking

HISTOGRAMMouseClickedStrokeColor
Stroke color when mouse clicking

HISTOGRAMMouseClickedStrokeWidth
Stroke width when mouse clicking

HISTOGRAMMouseDownDisplay
Default False, show/not the tooltip when mouse click down a HISTOGRAM point

HISTOGRAMMouseDownColor
Color when mouse moving down the element

HISTOGRAMMouseDownOpacity
Opacity when mouse moving up the element

HISTOGRAMMouseDownStrokeColor
Stroke color when mouse moving up the element

HISTOGRAMMouseDownStrokeWidth
Stroke width when mouse moving up the element

HISTOGRAMMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a HISTOGRAM point

HISTOGRAMMouseEnterColor
Color when mouse entering the element

HISTOGRAMMouseEnterOpacity
Opacity when mouse entering the element

HISTOGRAMMouseEnterStrokeColor
Stroke color when mouse entering the element

HISTOGRAMMouseEnterStrokeWidth
Stroke width when mouse entering the element

HISTOGRAMMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a HISTOGRAM point

HISTOGRAMMouseLeaveColor
Color when mouse leaving the element

HISTOGRAMMouseLeaveOpacity
Opacity when mouse leaving the element

HISTOGRAMMouseLeaveStrokeColor
Stroke color when mouse leaving the element

HISTOGRAMMouseLeaveStrokeWidth
Stroke width when mouse leaving the element

HISTOGRAMMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a HISTOGRAM point

HISTOGRAMMouseMoveColor
Color when mouse moving in the element

HISTOGRAMMouseMoveOpacity
Opacity when mouse moving in the element

HISTOGRAMMouseMoveStrokeColor
Stroke color when mouse moving in the element

HISTOGRAMMouseMoveStrokeWidth
Stroke width when mouse moving in the element

HISTOGRAMMouseOutDisplay
Defalut False, hide/not tooltip when mouse is not hovering a HISTOGRAM point anymore

HISTOGRAMMouseOutAnimationTime
Animation time when mouse moving out the element

HISTOGRAMMouseOutColor
Color when mouse moving out the element

HISTOGRAMMouseOutOpacity
Opacity when mouse moving out the element

HISTOGRAMMouseOutStrokeColor
Stroke color when mouse moving out the element

HISTOGRAMMouseOutStrokeWidth
Stroke width when mouse moving out the element

HISTOGRAMMouseUpDisplay
Default False, show/not the tooltip when mouse click up a HISTOGRAM point

HISTOGRAMMouseUpColor
Color when mouse moving up the element

HISTOGRAMMouseUpOpacity
Opacity when mouse moving up the element

HISTOGRAMMouseUpStrokeColor
Stroke color when mouse moving up the element

HISTOGRAMMouseUpStrokeWidth
Stroke width when mouse moving up the element

HISTOGRAMMouseOverDisplay
 Default False, show/not the tooltip when mouse hover on a HISTOGRAM point

HISTOGRAMMouseOverColor
 Color when mouse moving over the element

HISTOGRAMMouseOverOpacity
 Opacity when mouse moving over the element

HISTOGRAMMouseOverStrokeColor
 Stroke color when mouse moving over the element

HISTOGRAMMouseOverStrokeWidth
 Stroke width when mouse moving over the element

HISTOGRAMMouseOverTooltipsSetting
 Default "style1"

HISTOGRAMMouseOverTooltipsHtml
 Default " "

HISTOGRAMMouseOverTooltipsPosition
 Default "absolute"

HISTOGRAMMouseOverTooltipsBackgroundColor
 Default "white"

HISTOGRAMMouseOverTooltipsBorderStyle
 Default "solid"

HISTOGRAMMouseOverTooltipsBorderWidth
 Default 0

HISTOGRAMMouseOverTooltipsPadding
 Default "3px"

HISTOGRAMMouseOverTooltipsBorderRadius
 Default "3px"

HISTOGRAMMouseOverTooltipsOpacity
 Default 0.8

LINEMouseEvent Default True, open/not open mouse event of LINE module

LINEMouseClickedDisplay
 Default False, show/not the tooltip when mouse click on a LINE point

LINEMouseClickedLineOpacity
 Line opacity when mouse clicking the element

LINEMouseClickedLineStrokeColor
 Stroke color when mouse clicking the element

LINEMouseClickedLineStrokeWidth
 Stroke width when mouse clicking the element

LINEMouseDownDisplay
 Default False, show/not the tooltip when mouse click down a LINE point

LINEMouseDownLineOpacity
 Line opacity when mouse moving down the element

LINEMouseDownLineStrokeColor
 Stroke color when mouse moving down the element

LINEMouseDownLineStrokeWidth
 Stroke width when mouse moving down the element

LINEMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a LINE point

LINEMouseEnterLineOpacity
Line opacity when mouse entering the element

LINEMouseEnterLineStrokeColor
Stroke color when mouse entering the element

LINEMouseEnterLineStrokeWidth
Stroke width when mouse entering the element

LINEMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a LINE point

LINEMouseLeaveLineOpacity
Line opacity when mouse leaving the element

LINEMouseLeaveLineStrokeColor
Stroke color when mouse leaving the element

LINEMouseLeaveLineStrokeWidth
Stroke width when mouse leaving the element

LINEMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a LINE point

LINEMouseMoveLineOpacity
Line opacity when mouse moving in the element

LINEMouseMoveLineStrokeColor
Stroke color when mouse moving in the element

LINEMouseMoveLineStrokeWidth
Stroke width when mouse moving in the element

LINEMouseOutDisplay
Default False, hide/not tooltip when mouse is not hovering a LINE point anymore

LINEMouseOutAnimationTime
Animation time when mouse moving out the element

LINEMouseOutLineOpacity
Line opacity when mouse moving out the element

LINEMouseOutLineStrokeColor
Stroke color when mouse moving out the element

LINEMouseOutLineStrokeWidth
Stroke width when mouse moving out the element

LINEMouseUpDisplay
Default False, show/not the tooltip when mouse click up a LINE point

LINEMouseUpLineOpacity
Line opacity when mouse moving up the element

LINEMouseUpLineStrokeColor
Stroke color when mouse moving up the element

LINEMouseUpLineStrokeWidth
Stroke width when mouse moving up the element

LINEMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a LINE point

LINEMouseOverLineOpacity
 Line opacity when mouse moving over the element
 LINEMouseOverLineStrokeColor
 Stroke color when mouse moving over the element
 LINEMouseOverLineStrokeWidth
 Stroke width when mouse moving over the element
 LINEMouseOverTooltipsSetting
 Default "style1"
 LINEMouseOverTooltipsHtml
 Default " "
 LINEMouseOverTooltipsPosition
 Default "absolute"
 LINEMouseOverTooltipsBackgroundColor
 Default "white"
 LINEMouseOverTooltipsBorderStyle
 Default "solid"
 LINEMouseOverTooltipsBorderWidth
 Default 0
 LINEMouseOverTooltipsPadding
 Default "3px"
 LINEMouseOverTooltipsBorderRadius
 Default "3px"
 LINEMouseOverTooltipsOpacity
 Default 0.8
 WIGMouseEvent Default True, open/not open mouse event of WIG module
 WIGMouseClickedDisplay
 Default False, show/not the tooltip when mouse click on a WIG point
 WIGMouseClickedLineOpacity
 Line opacity when mouse clicking the element
 WIGMouseClickedLineStrokeColor
 Stroke color when mouse clicking the element
 WIGMouseClickedLineStrokeWidth
 Stroke width when mouse clicking the element
 WIGMouseClickedFillColor
 Filling color when mouse clicking the element
 WIGMouseDownDisplay
 Default False, show/not the tooltip when mouse click down a WIG point
 WIGMouseDownLineOpacity
 Line opacity when mouse moving down the element
 WIGMouseDownLineStrokeColor
 Stroke color when mouse moving down the element
 WIGMouseDownLineStrokeWidth
 Stroke width when mouse moving down the element
 WIGMouseDownFillColor
 Filling color when mouse moving down the element

WIGMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a WIG point

WIGMouseEnterLineOpacity
Line opacity when mouse entering the element

WIGMouseEnterLineStrokeColor
Stroke color when mouse entering the element

WIGMouseEnterLineStrokeWidth
Stroke width when mouse entering the element

WIGMouseEnterFillColor
Filling color when mouse entering the element

WIGMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a WIG point

WIGMouseLeaveLineOpacity
Line opacity when mouse leaving the element

WIGMouseLeaveLineStrokeColor
Stroke color when mouse leaving the element

WIGMouseLeaveLineStrokeWidth
Stroke width when mouse leaving the element

WIGMouseLeaveFillColor
Filling color when mouse leaving the element

WIGMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a WIG point

WIGMouseMoveLineOpacity
Line opacity when mouse moving in the element

WIGMouseMoveLineStrokeColor
Stroke color when mouse moving in the element

WIGMouseMoveLineStrokeWidth
Stroke width when mouse moving in the element

WIGMouseMoveFillColor
Filling color when mouse leaving the element

WIGMouseOutDisplay
Defalut False, hide/not tooltip when mouse is not hovering a WIG point anymore

WIGMouseOutAnimationTime
Animation time when mouse moving out the element

WIGMouseOutLineOpacity
Line opacity when mouse moving out the element

WIGMouseOutLineStrokeColor
Stroke color when mouse moving out the element

WIGMouseOutLineStrokeWidth
Stroke width when mouse moving out the element

WIGMouseOutFillColor
Filling color when mouse moving out the element

WIGMouseUpDisplay
Default False, show/not the tooltip when mouse click up a WIG point

WIGMouseUpLineOpacity
 Line opacity when mouse moving up the element
 WIGMouseUpLineStrokeColor
 Stroke color when mouse moving up the element
 WIGMouseUpLineStrokeWidth
 Stroke width when mouse moving up the element
 WIGMouseUpFillColor
 Filling color when mouse moving up the element
 WIGMouseOverDisplay
 Default False, show/not the tooltip when mouse hover on a WIG point
 WIGMouseOverLineOpacity
 Line opacity when mouse moving over the element
 WIGMouseOverLineStrokeColor
 Stroke color when mouse moving over the element
 WIGMouseOverLineStrokeWidth
 Stroke width when mouse moving over the element
 WIGMouseOverFillColor
 Filling color when mouse moving over the element
 WIGMouseOverTooltipsSetting
 Default "style1"
 WIGMouseOverTooltipsHtml
 Default " "
 WIGMouseOverTooltipsPosition
 Default "absolute"
 WIGMouseOverTooltipsBackgroundColor
 Default "white"
 WIGMouseOverTooltipsBorderStyle
 Default "solid"
 WIGMouseOverTooltipsBorderWidth
 Default 0
 WIGMouseOverTooltipsPadding
 Default "3px"
 WIGMouseOverTooltipsBorderRadius
 Default "3px"
 WIGMouseOverTooltipsOpacity
 Default 0.8
 SCATTERxlink Default False, add/not xlink for SCATTER module
 SCATTERMouseEvent
 Default True, open/not open mouse event of SCATTER module
 SCATTERMouseClickedDisplay
 Default False, show/not the tooltip when mouse click on a SCATTER point
 SCATTERMouseClickedColor
 Color when mouse clicking the element
 SCATTERMouseClickedCircleSize
 Circle size when mouse clicking the element

SCATTERMouseClickedCircleOpacity
Circle opacity when mouse clicking the element

SCATTERMouseClickedCircleStrokeColor
Circle stroke color when mouse clicking the element

SCATTERMouseClickedCircleStrokeWidth
Circle stroke width when mouse clicking the element

SCATTERMouseClickedTextFromData
Text column when mouse clicking the element

SCATTERMouseClickedTextOpacity
Text opacity when mouse clicking the element

SCATTERMouseClickedTextColor
Text color when mouse clicking the element

SCATTERMouseClickedTextSize
Text size when mouse clicking the element

SCATTERMouseClickedTextPostionX, SCATTERMouseClickedTextPostionY
Text coordinates when mouse clicking the element

SCATTERMouseClickedTextDrag
Whether text is draggable when clicing element

SCATTERMouseDownDisplay
Default False, show/not the tooltip when mouse click down a SCATTER point

SCATTERMouseDownColor
Color when mouse moving down the element

SCATTERMouseDownCircleSize
Circle size when mouse moving down the element

SCATTERMouseDownCircleOpacity
Circle opacity when mouse moving down the element

SCATTERMouseDownCircleStrokeColor
Circle stroke color when mouse moving down the element

SCATTERMouseDownCircleStrokeWidth
Circle stroke width when mouse moving down the element

SCATTERMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a SCATTER point

SCATTERMouseEnterColor
Color when mouse entering the element

SCATTERMouseEnterCircleSize
Circle size when mouse entering the element

SCATTERMouseEnterCircleOpacity
Circle opacity when mouse entering the element

SCATTERMouseEnterCircleStrokeColor
Circle stroke color when mouse entering the element

SCATTERMouseEnterCircleStrokeWidth
Circle stroke width when mouse entering the element

SCATTERMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a SCATTER point

SCATTERMouseLeaveColor
Color when mouse leaving the element

SCATTERMouseLeaveCircleSize
Circle size when mouse leaving the element

SCATTERMouseLeaveCircleOpacity
Circle opacity when mouse leaving the element

SCATTERMouseLeaveCircleStrokeColor
Circle stroke color when mouse leaving the element

SCATTERMouseLeaveCircleStrokeWidth
Circle stroke width when mouse leaving the element

SCATTERMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a SCATTER point

SCATTERMouseMoveColor
Color when mouse moving in the element

SCATTERMouseMoveCircleSize
Circle size when mouse moving in the element

SCATTERMouseMoveCircleOpacity
Circle opacity when mouse moving in the element

SCATTERMouseMoveCircleStrokeColor
Circle stroke color when mouse moving in the element

SCATTERMouseMoveCircleStrokeWidth
Circle stroke width when mouse moving in the element

SCATTERMouseOutDisplay
Default False, hide/not tooltip when mouse is not hovering a SCATTER point anymore

SCATTERMouseOutAnimationTime
Animation time when mouse moving out the element

SCATTERMouseOutColor
Color when mouse moving out the element

SCATTERMouseOutCircleSize
Circle size when mouse moving out the element

SCATTERMouseOutCircleOpacity
Circle opacity when mouse moving out the element

SCATTERMouseOutCircleStrokeColor
Circle stroke color when mouse moving out the element

SCATTERMouseOutCircleStrokeWidth
Circle stroke width when mouse moving out the element

SCATTERMouseUpDisplay
Default False, show/not the tooltip when mouse click up a SCATTER point

SCATTERMouseUpColor
Color when mouse moving up the element

SCATTERMouseUpCircleSize
Circle size when mouse moving up the element

SCATTERMouseUpCircleOpacity
Circle opacity when mouse moving up the element

SCATTERMouseUpCircleStrokeColor
Circle stroke color when mouse moving up the element

SCATTERMouseUpCircleStrokeWidth
Circle stroke width when mouse moving up the element

SCATTERMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a SCATTER point

SCATTERMouseOverColor
Color when mouse moving over the element

SCATTERMouseOverCircleSize
Circle size when mouse moving over the element

SCATTERMouseOverCircleOpacity
Circle opacity when mouse moving over the element

SCATTERMouseOverCircleStrokeColor
Circle stroke color when mouse moving over the element

SCATTERMouseOverCircleStrokeWidth
Circle stroke width when mouse moving over the element

SCATTERMouseOverTooltipsSetting
Default "style1"

SCATTERMouseOverTooltipsHtml
Default " "

SCATTERMouseOverTooltipsPosition
Default "absolute"

SCATTERMouseOverTooltipsBackgroundColor
Default "white"

SCATTERMouseOverTooltipsBorderStyle
Default "solid"

SCATTERMouseOverTooltipsBorderWidth
Default 0

SCATTERMouseOverTooltipsPadding
Default "3px"

SCATTERMouseOverTooltipsBorderRadius
Default "3px"

SCATTERMouseOverTooltipsOpacity
Default 0.8

ARCxlink
Default False, add/not xlink for ARC module

ARCMouseEvent
Default True, open/not open mouse event of ARC module

ARCMouseClickDisplay
Default False, show/not the tooltip when mouse click on a ARC point

ARCMouseClickColor
Color when mouse clicking the element

ARCMouseClickArcOpacity
Arc opacity when mouse clicking the element

ARCMouseClickArcStrokeColor
Arc stroke color when mouse clicking the element

ARCMouseClickArcStrokeWidth
Arc stroke width when mouse clicking the element

ARCMouseClickTextFromData
Text column when mouse clicking the element

ARCMouseClickTextOpacity
Text opacity when mouse clicking the element

ARCMouseClickTextColor
Text color when mouse clicking the element

ARCMouseClickTextSize
Text size when mouse clicking the element

ARCMouseClickTextPostionX, ARCMouseClickTextPostionY
Text coordinates when mouse clicking the element

ARCMouseClickTextDrag
Whether text is draggable when mouse clicking the element

ARCMouseDownDisplay
Default False, show/not the tooltip when mouse click down a ARC point

ARCMouseDownColor
Color when mouse moving down the element

ARCMouseDownArcOpacity
Arc opacity when mouse moving down the element

ARCMouseDownArcStrokeColor
Arc stroke color when mouse moving down the element

ARCMouseDownArcStrokeWidth
Arc stroke width when mouse moving down the element

ARCMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a ARC point

ARCMouseEnterColor
Color when mouse entering the element

ARCMouseEnterArcOpacity
Arc opacity when mouse entering the element

ARCMouseEnterArcStrokeColor
Arc stroke color when mouse entering the element

ARCMouseEnterArcStrokeWidth
Arc stroke width when mouse entering the element

ARCMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a ARC point

ARCMouseLeaveColor
Color when mouse leaving the element

ARCMouseLeaveArcOpacity
Arc opacity when mouse leaving the element

ARCMouseLeaveArcStrokeColor
Arc stroke color when mouse leaving the element

ARCMouseLeaveArcStrokeWidth
Arc stroke width when mouse leaving the element

ARCMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a ARC point

ARCMouseMoveColor
Color when mouse moving in the element

ARCMouseMoveArcOpacity
Arc opacity when mouse moving in the element

ARCMouseMoveArcStrokeColor
Arc stroke color when mouse moving in the element

ARCMouseMoveArcStrokeWidth
Arc stroke width when mouse moving in the element

ARCMouseOutDisplay
Default False, hide/not tooltip when mouse is not hovering a ARC point anymore

ARCMouseOutAnimationTime
Animation time when mouse moving out the element

ARCMouseOutColor
Color when mouse moving out the element

ARCMouseOutArcOpacity
Arc opacity when mouse moving out the element

ARCMouseOutArcStrokeColor
Arc stroke color when mouse moving out the element

ARCMouseOutArcStrokeWidth
Arc stroke width when mouse moving out the element

ARCMouseUpDisplay
Default False, show/not the tooltip when mouse click up a ARC point

ARCMouseUpColor
Color when mouse moving up the element

ARCMouseUpArcOpacity
Arc opacity when mouse moving up the element

ARCMouseUpArcStrokeColor
Arc stroke color when mouse moving up the element

ARCMouseUpArcStrokeWidth
Arc stroke width when mouse moving up the element

ARCMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a ARC point

ARCMouseOverColor
Color when mouse moving over the element

ARCMouseOverArcOpacity
Arc opacity when mouse moving over the element

ARCMouseOverArcStrokeColor
Arc stroke color when mouse moving over the element

ARCMouseOverArcStrokeWidth
Arc stroke width when mouse moving over the element

ARCMouseOverTooltipsSetting
Default "style1"

```

ARCMouseOverTooltipsHtml
    Default " "
ARCMouseOverTooltipsPosition
    Default "absolute"
ARCMouseOverTooltipsBackgroundColor
    Default "white"
ARCMouseOverTooltipsBorderStyle
    Default "solid"
ARCMouseOverTooltipsBorderWidth
    Default 0
ARCMouseOverTooltipsPadding
    Default "3px"
ARCMouseOverTooltipsBorderRadius
    Default "3px"
ARCMouseOverTooltipsOpacity
    Default 0.8
GENExlink      Default False, add/not xlink for GENE module
GENEMouseEvent Default True, open/not open mouse event of GENE module
GENEMouseClickDisplay
    Default False, show/not the tooltip when mouse click on a GENE point
GENEMouseClickColor
    Color when mouse clicking the element
GENEMouseClickArcOpacity
    Arc opacity when mouse clicking the element
GENEMouseClickArcStrokeColor
    Arc stroke color when mouse clicking the element
GENEMouseClickArcStrokeWidth
    Arc stroke width when mouse clicking the element
GENEMouseClickTextFromData
    Text column when mouse clicking the element
GENEMouseClickTextOpacity
    Text opacity when mouse clicking the element
GENEMouseClickTextColor
    Text color when mouse clicking the element
GENEMouseClickTextSize
    Text size when mouse clicking the element
GENEMouseClickTextPostionX, GENEMouseClickTextPostionY
    Text coordinates when mouse clicking the element
GENEMouseClickTextDrag
    Whether text is draggable when mouse clicking the element
GENEMouseDownDisplay
    Default False, show/not the tooltip when mouse click down a GENE point
GENEMouseDownColor
    Color when mouse moving down the element

```

GENEMouseDownArcOpacity
Arc opacity when mouse moving down the element

GENEMouseDownArcStrokeColor
Arc stroke color when mouse moving down the element

GENEMouseDownArcStrokeWidth
Arc stroke width when mouse moving down the element

GENEMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a GENE point

GENEMouseEnterColor
Color when mouse entering the element

GENEMouseEnterArcOpacity
Arc opacity when mouse entering the element

GENEMouseEnterArcStrokeColor
Arc stroke color when mouse entering the element

GENEMouseEnterArcStrokeWidth
Arc stroke width when mouse entering the element

GENEMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a GENE point

GENEMouseLeaveColor
Color when mouse leaving the element

GENEMouseLeaveArcOpacity
Arc opacity when mouse leaving the element

GENEMouseLeaveArcStrokeColor
Arc stroke color when mouse leaving the element

GENEMouseLeaveArcStrokeWidth
Arc stroke width when mouse leaving the element

GENEMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a GENE point

GENEMouseMoveColor
Color when mouse moving in the element

GENEMouseMoveArcOpacity
Arc opacity when mouse moving in the element

GENEMouseMoveArcStrokeColor
Arc stroke color when mouse moving in the element

GENEMouseMoveArcStrokeWidth
Arc stroke width when mouse moving in the element

GENEMouseOutDisplay
Defalut False, hide/not tooltip when mouse is not hovering a GENE point any-
more

GENEMouseOutAnimationTime
Animation time when mouse moving out the element

GENEMouseOutColor
Color when mouse moving out the element

GENEMouseOutArcOpacity
Arc opacity when mouse moving out the element

GENEMouseOutArcStrokeColor
Arc stroke color when mouse moving out the element

GENEMouseOutArcStrokeWidth
Arc stroke width when mouse moving out the element

GENEMouseUpDisplay
Default False, show/not the tooltip when mouse click up a GENE point

GENEMouseUpColor
Color when mouse moving up the element

GENEMouseUpArcOpacity
Arc opacity when mouse moving up the element

GENEMouseUpArcStrokeColor
Arc stroke color when mouse moving up the element

GENEMouseUpArcStrokeWidth
Arc stroke width when mouse moving up the element

GENEMouseOverDisplay
Default False, show/not the tooltip when mouse hover on a GENE point

GENEMouseOverColor
Color when mouse moving over the element

GENEMouseOverArcOpacity
Arc opacity when mouse moving over the element

GENEMouseOverArcStrokeColor
Arc stroke color when mouse moving over the element

GENEMouseOverArcStrokeWidth
Arc stroke width when mouse moving over the element

GENEMouseOverTooltipsSetting
Default "style1"

GENEMouseOverTooltipsHtml
Default " "

GENEMouseOverTooltipsPosition
Default "absolute"

GENEMouseOverTooltipsBackgroundColor
Default "white"

GENEMouseOverTooltipsBorderStyle
Default "solid"

GENEMouseOverTooltipsBorderWidth
Default 0

GENEMouseOverTooltipsPadding
Default "3px"

GENEMouseOverTooltipsBorderRadius
Default "3px"

GENEMouseOverTooltipsOpacity
Default 0.8

LOLLIPOPxlink Default False, add/not xlink for LOLLIPOP module

LOLLIPOPMouseEvent
Default True, open/not open mouse event of LOLLIPOP module

LOLLIPOPMouseClickedDisplay
Default False, show/not the tooltip when mouse click on a LOLLIPOP point

LOLLIPOPMouseClickedColor
Color when mouse clicking

LOLLIPOPMouseClickedCircleSize
Circle size when mouse clicking the element

LOLLIPOPMouseClickedCircleOpacity
Circle opacity when mouse clicking the element

LOLLIPOPMouseClickedCircleStrokeColor
Circle stroke color when mouse clicking the element

LOLLIPOPMouseClickedCircleStrokeWidth
Circle stroke width when mouse clicking the element

LOLLIPOPMouseClickedTextFromData
Text column when mouse clicking the element

LOLLIPOPMouseClickedTextOpacity
Text opacity when mouse clicking the element

LOLLIPOPMouseClickedTextColor
Text color when mouse clicking the element

LOLLIPOPMouseClickedTextSize
Text size when mouse clicking the element

LOLLIPOPMouseClickedTextPostionX, LOLLIPOPMouseClickedTextPostionY
Text coordinates when mouse clicking the element

LOLLIPOPMouseClickedTextDrag
Whether text is draggable when mouse clicking the element

LOLLIPOPMouseDownDisplay
Default False, show/not the tooltip when mouse click down a LOLLIPOP point

LOLLIPOPMouseDownColor
Color when mouse moving down the element

LOLLIPOPMouseDownCircleSize
Circle size when mouse moving down the element

LOLLIPOPMouseDownCircleOpacity
Circle opacity when mouse moving down the element

LOLLIPOPMouseDownCircleStrokeColor
Circle stroke color when mouse moving down the element

LOLLIPOPMouseDownCircleStrokeWidth
Circle stroke width when mouse moving down the element

LOLLIPOPMouseEnterDisplay
Default False, show/not the tooltip when mouse mover over a LOLLIPOP point

LOLLIPOPMouseEnterColor
Color when mouse entering the element

LOLLIPOPMouseEnterCircleSize
Circle size when mouse entering the element

LOLLIPOPMouseEnterCircleOpacity
Circle opacity when mouse entering the element

LOLLIPOPMouseEnterCircleStrokeColor
Circle stroke color when mouse entering the element

LOLLIPOPMouseEnterCircleStrokeWidth
Circle stroke width when mouse entering the element

LOLLIPOPMouseLeaveDisplay
Default False, show/not the tooltip when mouse mover leave a LOLLIPOP point

LOLLIPOPMouseLeaveColor
Color when mouse leaving the element

LOLLIPOPMouseLeaveCircleSize
Circle size when mouse leaving the element

LOLLIPOPMouseLeaveCircleOpacity
Circle opacity when mouse leaving the element

LOLLIPOPMouseLeaveCircleStrokeColor
Circle stroke color when mouse leaving the element

LOLLIPOPMouseLeaveCircleStrokeWidth
Circle stroke width when mouse leaving the element

LOLLIPOPMouseMoveDisplay
Default False, show/not the tooltip when mouse move into a LOLLIPOP point

LOLLIPOPMouseMoveColor
Color when mouse moving in the element

LOLLIPOPMouseMoveCircleSize
Circle size when mouse moving in the element

LOLLIPOPMouseMoveCircleOpacity
Circle opacity when mouse moving in the element

LOLLIPOPMouseMoveCircleStrokeColor
Circle stroke color when mouse moving in the element

LOLLIPOPMouseMoveCircleStrokeWidth
Circle stroke width when mouse moving in the element

LOLLIPOPMouseOutDisplay
Defalut False, hide/not tooltip when mouse is not hovering a LOLLIPOP point anymore

LOLLIPOPMouseOutAnimationTime
Animation time when mouse moving out the element

LOLLIPOPMouseOutColor
Color when mouse moving out the element

LOLLIPOPMouseOutCircleSize
Circle size when mouse moving out the element

LOLLIPOPMouseOutCircleOpacity
Circle opacity when mouse moving out the element

LOLLIPOPMouseOutCircleStrokeColor
Circle stroke color when mouse moving out the element

LOLLIPOPMouseOutCircleStrokeWidth
Circle stroke width when mouse moving out the element

LOLLIPOPMouseUpDisplay
Default False, show/not the tooltip when mouse click up a LOLLIPOP point

LOLLIPOPMouseUpColor	Color when mouse moving up the element
LOLLIPOPMouseUpCircleSize	Circle size when mouse moving up the element
LOLLIPOPMouseUpCircleOpacity	Circle opacity when mouse moving up the element
LOLLIPOPMouseUpCircleStrokeColor	Circle stroke color when mouse moving up the element
LOLLIPOPMouseUpCircleStrokeWidth	Circle stroke width when mouse moving up the element
LOLLIPOPMouseOverDisplay	Default False, show/not the tooltip when mouse hover on a LOLLIPOP point
LOLLIPOPMouseOverColor	Color when mouse moving over the element
LOLLIPOPMouseOverCircleSize	Circle size when mouse moving over the element
LOLLIPOPMouseOverCircleOpacity	Circle opacity when mouse moving over the element
LOLLIPOPMouseOverCircleStrokeColor	Circle stroke color when mouse moving over the element
LOLLIPOPMouseOverCircleStrokeWidth	Circle stroke width when mouse moving over the element
LOLLIPOPMouseOverTooltipsSetting	Default "style1"
LOLLIPOPMouseOverTooltipsHtml	Default " "
LOLLIPOPMouseOverTooltipsPosition	Default "absolute"
LOLLIPOPMouseOverTooltipsBackgroundColor	Default "white"
LOLLIPOPMouseOverTooltipsBorderStyle	Default "solid"
LOLLIPOPMouseOverTooltipsBorderWidth	Default 0
LOLLIPOPMouseOverTooltipsPadding	Default "3px"
LOLLIPOPMouseOverTooltipsBorderRadius	Default "3px"
LOLLIPOPMouseOverTooltipsOpacity	Default 0.8
elementId	the name of the HTML id to be used to contain the visualization
...	Ignored

Value

The main figure for interacCircos with all tracks

Examples

```
Circos(genome = "hg19")
```

CircosArc

ARC module

Description

Create the CNV plot without value, Gene domain, Chromosome band

Usage

```
CircosArc(
  modulename,
  compareGroup = 1,
  outerRadius = 150,
  innerRadius = 130,
  opacity = 1,
  animationDisplay = FALSE,
  animationTime = 2000,
  animationDelay = 20,
  animationType = "bounce",
  data,
  ...
)
```

Arguments

modulename	The name of the new module
compareGroup	The group number of this module in compare module
innerRadius, outerRadius	Where the module should begin and end
opacity	The opacity for arc
animationDisplay	Whether display animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of arc with details including chr, start, end, color, des, link and html. Details can be found on document
...	Ignored

Value

The module tracks for arc modules

Examples

```
arcData<-arcExample
Circos(CircosArc('Arc01', outerRadius = 212, innerRadius = 224, data=arcData),
  genome=list("EGFR"=1211),outerRadius = 220,genomeFillColor = c("grey"))
```

CircosAuxLine

*AUXILIARYLINE module***Description**

A auxiliary line for better explanation of the visualization

Usage

```
CircosAuxLine(
  modulename,
  startX = 20,
  startY = 20,
  endX = 120,
  endY = 120,
  color = "red",
  width = 0.5,
  type = "straight",
  controlPointX = 0,
  controlPointY = 0,
  lineType = "solid",
  dashArray = 3,
  marker = TRUE,
  markerType = "circle",
  markerColor = "blue",
  markerHeight = 5,
  markerWidth = 5,
  markerPosition = 2,
  animationDisplay = FALSE,
  animationTime = 50,
  animationDelay = 1000,
  animationType = "linear",
  ...
)
```

Arguments

modulename	The name of the new module
startX, startY	Start coordinates for auxiliary line
endX, endY	End coordinates for auxiliary line

color	Color for auxiliary line
width	Width for auxiliary line
type	Type for auxiliary line, could be straight/curve/broken
controlPointX, controlPointY	The middle point coordinates for curve and broken
lineType	Line type, could be solid/dot
dashArray	The dash gap width
marker	Whether display a marker on the end of line
markerType	Type of marker, could be circle/square/arrow/stub
markerColor, markerHeight, markerWidth	Color, Height and Width for marker
markerPosition	1 means start, 2 means end, 3 means both
animationDisplay	whether display animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
...	Ignored

Value

The module tracks for auxliary line modules

Examples

```
Circos(CircosAuxLine('AuxLine01'))
```

CircosBackground	<i>BACKGROUND module</i>
------------------	--------------------------

Description

Background for better display of other modules

Usage

```
CircosBackground(  
  modulename,  
  compareGroup = 1,  
  fillColors = "#EEEEFF",  
  borderColors = "#000000",  
  axisShow = FALSE,  
  axisColor = "#000",  
  axisOpacity = 0.5,
```

```

    axisNum = 4,
    axisWidth = 0.3,
    maxRadius = 190,
    minRadius = 105,
    borderSize = 0.3,
    animationDisplay = FALSE,
    animationTime = 2000,
    animationDelay = 20,
    animationType = "bounce",
    ...
)

```

Arguments

modulename	The name of the new module
compareGroup	The group number of this module in compare module
fillColors	The filling color of the module
borderColors	The border color of the module
axisShow	Whether show a axis or not
axisWidth, axisColor, axisOpacity, axisNum	The color, opacity value and number of line for axis
minRadius, maxRadius	The outer and inner ring range of module
borderSize	The thickness of the border
animationDisplay	Whether display animation or not
animationTime, animationDelay, animationType	The time, delay and display type for animation
...	Ignored

Value

The module tracks for background modules.

Examples

```
Circos(CircosBackground('bg01', fillColors="#FFEEEE", borderSize = 1))
```

CircosBubble

*BUBBLE module***Description**

Create a bubble plot

Usage

```
CircosBubble(
  modulename,
  compareGroup = 1,
  maxRadius = 200,
  minRadius = 50,
  blockStroke = TRUE,
  blockStrokeColor = "black",
  blockStrokeWidth = 1,
  blockFill = FALSE,
  blockFillColor = "white",
  bubbleMaxSize = 5,
  bubbleMinSize = 2,
  minColor = "red",
  maxColor = "green",
  ValueAxisManualScale = FALSE,
  ValueAxisMaxScale = 10,
  ValueAxisMinScale = 0,
  totalLayer = 1,
  animationDisplay = FALSE,
  animationTime = 2000,
  animationDelay = 20,
  animationType = "bounce",
  data,
  ...
)
```

Arguments

<code>modulename</code>	The name of the new module
<code>compareGroup</code>	The group number of this module in compare module
<code>maxRadius, minRadius</code>	The outer and inner ring range of module
<code>blockStroke</code>	Whether display the stroke between each bubble block
<code>blockStrokeColor</code>	Stroke color for block
<code>blockStrokeWidth</code>	Stroke width for block

blockFill	Whether fill a block or not
blockFillColor	The color for filling the block
bubbleMaxSize	The max size for bubble
bubbleMinSize	The min size for bubble
minColor	The color the bubble of min value
maxColor	The color the bubble of max value
ValueAxisManualScale	Whether manually control the scale of value
ValueAxisMaxScale, ValueAxisMinScale	The max and min scale value for manually control
totalLayer	The color and width for stroke
animationDisplay	Whether display animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of value in bubble plot with details including chr, start, end, value, name, layer, color and html. Details can be found on document
...	Ignored

Value

The module tracks for bubble modules

Examples

```
bubbleData<-bubbleExample
Circos(CircosBubble('Bubble01', maxRadius = 230, minRadius = 170, data=bubbleData,
blockStroke = TRUE, bubbleMaxSize=10, bubbleMinSize = 2, maxColor = "red", minColor = "yellow",
totalLayer =3, animationDisplay = TRUE, animationType="linear"),
genome = list("2L"=23011544,"2R"=21146708,"3L"=24543557,"3R"= 27905053,"X"=22422827,"4"=1351857),
BUBBLEmouseoverDisplay =TRUE,innerRadius = 236)
```

Description

Create a chord module using a data matrix

Usage

```

CircosChord(
  modulename,
  innerRadius = 237,
  outerRadius = 238,
  fillOpacity = 0.67,
  fillStrokeWidth = 1,
  padding = 0.06,
  autoFillColor = TRUE,
  fillColor = c("#B8B8B8"),
  fillStrokeColor = c("black"),
  outerARC = TRUE,
  outerARCAutoColor = TRUE,
  outerARCColor = c("red"),
  outerARCStrokeColor = c("black"),
  outerARCText = TRUE,
  data,
  ...
)

```

Arguments

<code>modulename</code>	The name of the new module
<code>innerRadius</code>	The inner radius for chord circle
<code>outerRadius</code>	The outer radius for chord circle
<code>fillOpacity</code>	The opacity for filling color
<code>fillStrokeWidth</code>	The stroke width for chord
<code>padding</code>	The pad of chord
<code>autoFillColor</code>	Whether auto assign color for chord
<code>fillColor</code>	If not, manually assign color for chord
<code>fillStrokeColor</code>	The color for stroke
<code>outerARC</code>	Whether display outer arc
<code>outerARCAutoColor</code>	If true, whether auto assign color for arc
<code>outerARCColor</code>	The manually assigned color for arc
<code>outerARCStrokeColor</code>	The stroke color for arc
<code>outerARCText</code>	Whether display text for arc or not
<code>data</code>	A matrix-list of chord value with relationship details
<code>...</code>	Ignored

Value

The module tracks for chord modules of NG-Circos

Examples

```
chordData<-chordExample
Circos(CircosChord('CHORD', data = chordData,innerRadius= 210,outerRadius= 211,fillOpacity=0.67,
strokeColor="black",strokeWidth= "1px",outerARCText=FALSE),genome=list("C.CK" = 189.51,"C.NPK"=188,
"GC.CK"=186.11, "GC.NPK"=191.51,"Alphaproteobacteria"=70.16,"Betaproteobacteria"=23.51,
"Gammaproteobacteria"=25.51, "Deltaproteobacteria"=23.28,"Acidobacteria"=53.62,
"Actinobacteria"=72.33, "Bacteroidetes"=22.41, "Chloroflexi"=15.08,"Firmicutes"=10.72,
"Gemmatimonadetes"=26.37, "Planctomycetes"=19.26,"Thaumarchaeota"=6.15, "Verrucomicrobia"=8.3,
"Ascomycota"=159.41, "Basidiomycota"=79.73,"Zygomycota"=139.29 ),outerRadius = 217,
genomeLabelDisplay = FALSE)
```

CircosChord.p

CHORD module of circosJS

Description

Create a chord module using a data path. chord.p means chord plot based on path

Usage

```
CircosChord.p(
  modulename,
  radius = 216,
  opacity = 0.67,
  color = "#B8B8B8",
  data,
  ...
)
```

Arguments

modulename	The name of the new module
radius	The radius for chord circle
opacity	The opacity for chord
color	The color for chord
data	A list of chord value with relationship details, details could be found on chord.pExample
...	Ignored

Value

The module tracks for chord modules of circosJS

Examples

```
chord.pData<-chord.pExample
Circos()
```

CircosCnv

*CNV module***Description**

Create a copy number variance module

Usage

```
CircosCnv(
  modulename,
  compareGroup = 1,
  maxRadius = 200,
  minRadius = 190,
  width = 10,
  color = "#CAE1FF",
  ValueAxisManualScale = FALSE,
  ValueAxisMaxScale = 10,
  ValueAxisMinScale = 0,
  strokeColor = "black",
  strokeWidth = 1,
  opacity = 1,
  animationDisplay = FALSE,
  animationTime = 2000,
  animationDelay = 50,
  animationType = "bounce",
  data,
  ...
)
```

Arguments

modulename	The name of the new module
compareGroup	The group number of this module in compare module
maxRadius, minRadius	The outer and inner ring range of module
width	Width for CNV module
color	Color for CNV module
ValueAxisManualScale	Whether manually control the scale of value or not

ValueAxisMaxScale, ValueAxisMinScale	The max and min scale value for manually control
strokeColor, strokeWidth	The color and width for stroke
opacity	The opacity for module
animationDisplay	Whether display animationn
animationTime, animationDelay, animationType	The time, delay and display type for animationn
data	A list of CNV with details including start, end, value, link, color and html. Details can be found on document
...	Ignored

Value

The module tracks for cnv modules

Examples

```
cnvData<-cnvExample
Circos(CircosCnv('Cnv01',maxRadius =175, minRadius =116, data =cnvData,width=2,color = "#4876FF")+
CircosBackground("bg01",minRadius = 116,maxRadius = 175,fillColors = "#F2F2F2",axisShow = TRUE),
CNVMouseOverDisplay = TRUE)
```

CircosGene

GENE module

Description

Create a number of genes with different functional region

Usage

```
CircosGene(
  modulename,
  compareGroup = 1,
  outerRadius = 180,
  innerRadius = 150,
  pathColor = "black",
  pathWidth = 1,
  arrow = TRUE,
  arrowGap = 2,
  arrowColor = "blue",
  arrowSize = 5,
  cdsColor = "#1e77b3",
  cdsStrokeColor = "black",
```

```

    cdsStrokeWidth = 1,
    utrWidth = -5,
    utrColor = "blue",
    utrStrokeColor = "blue",
    utrStrokeWidth = 1,
    animationDisplay = FALSE,
    animationTime = 2000,
    animationDelay = 20,
    animationType = "bounce",
    data,
    ...
)

```

Arguments

modulename	The name of the new module
compareGroup	The group number of this module in compare module
outerRadius, innerRadius	Where the module should begin and end
pathColor	The color for path between gene elements
pathWidth	The width for path between gene elements
arrow	Whether display arrows on path
arrowGap, arrowColor, arrowSize	The gap, color and size for arrow
cdsColor, cdsStrokeColor, cdsStrokeWidth	The color, stroke color and stroke width for coding
utrWidth, utrColor, utrStrokeColor, utrStrokeWidth	The max size for bubble
animationDisplay	Whether display animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of gene with details including chr, strand, start, end, type, name, link and html. Details can be found on document
...	Ignored

Value

The module tracks for gene modules

Examples

```

geneData<-geneExample
Circos(CircosGene('Gene01', outerRadius = 195, innerRadius = 180, data=geneData,arrowGap = 10,
arrowColor = "black",arrowSize = "12px",cdsColor = "#1e77b3",cdsStrokeColor = "#1e77b3",
cdsStrokeWidth= 5, utrWidth= -2,utrColor= "#fe7f0e",utrStrokeColor= "#fe7f0e",
animationDisplay = TRUE),genome =list("EGFR"=1000), outerRadius = 220)

```

CircosHeatmap

*HEATMAP module***Description**

Create a heatmap plot

Usage

```

CircosHeatmap(
  modulename,
  compareGroup = 1,
  maxRadius = 180,
  minRadius = 100,
  minColor = "red",
  maxColor = "green",
  ValueAxisManualScale = FALSE,
  ValueAxisMaxScale = 10,
  ValueAxisMinScale = 0,
  totalLayer = 1,
  animationDisplay = FALSE,
  animationDirection = "O2I",
  animationColorDirection = "L2C",
  animationTime = 2000,
  animationDelay = 20,
  animationType = "bounce",
  data,
  ...
)

```

Arguments

<code>modulename</code>	The name of the new module
<code>compareGroup</code>	The group number of this module in compare module
<code>maxRadius, minRadius</code>	Where the module should begin and end
<code>minColor</code>	The color for heatmap of min value
<code>maxColor</code>	The color for heatmap of max value
<code>ValueAxisManualScale</code>	Whether manually control the scale of value
<code>ValueAxisMaxScale, ValueAxisMinScale</code>	The max and min scale value for manually control
<code>totalLayer</code>	The color and width for stroke
<code>animationDisplay</code>	Whether display animation

animationDirection	The direction for animation. O2I: from outside to inside, I2O: from inside to outside
animationColorDirection	The color changing in animation. L2C: lowest to customized, H2C: highest to customized, the customized color should be defined in data
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of value in heatmap plot with details including chr, start, end, value, name, layer and html. Details can be found on document
...	Ignored

Value

The module tracks for heatmap modules.

Examples

```
heatmapData<-heatmapExample
Circos(CircosHeatmap('Heatmap01', maxRadius= 180, minRadius = 100, data=heatmapData,totallayer = 3),
genome = list("2L"=23011544,"2R"=21146708,"3L"=24543557,"3R"=27905053,"4"=1351857,"X"=22422827),
HEATMAPMouseEvent = TRUE,HEATMAPMouseOverDisplay = TRUE)
```

CircosHistogram	<i>HISTOGRAM module</i>
-----------------	-------------------------

Description

Create a multi-layer histogram plot

Usage

```
CircosHistogram(
  modulename,
  compareGroup = 1,
  maxRadius = 108,
  minRadius = 95,
  ValueAxisManualScale = FALSE,
  ValueAxisMaxScale = 10,
  ValueAxisMinScale = 0,
  fillColor = "red",
  animationDisplay = FALSE,
  animationTime = 2000,
  animationDelay = 20,
  data,
  ...
)
```

Arguments

modulename	The name of the new module
compareGroup	The group number of this module in compare module
maxRadius, minRadius	Where the module should begin and end
ValueAxisManualScale	Whether manually control the scale of value
ValueAxisMaxScale, ValueAxisMinScale	The max and min scale value for manually control
fillColor	The color for histogram
animationDisplay	Whether display animation
animationTime, animationDelay	The time and delay for animation
data	A list of value with details including chr, start, end, name, link, value and html. Details can be found on document
...	Ignored

Value

The module tracks for histogram modules

Examples

```

histogramData<-histogramExample
Circos(CircosHistogram('HISTOGRAM01', data = histogramData,fillColor= "#ff7f0e",maxRadius = 210,
minRadius = 175),genome=list("2L"=23011544,"2R"=21146708,"3L"=24543557,"3R"= 27905053,
"X"=22422827,"4"=1351857),
outerRadius = 220)

```

CircosLegend

LEGEND module

Description

Simple legend annotation displayed in the visualization

Usage

```

CircosLegend(
  modulename,
  x = 20,
  y = 20,
  title = "legend",

```

```

    size = 6,
    weight = "normal",
    GapBetweenGraphicText = 5,
    GapBetweenLines = 20,
    data,
    ...
  )

```

Arguments

<code>modulename</code>	The name of the new module
<code>x, y</code>	The coordinates if legend
<code>title</code>	The title for legend
<code>size</code>	Font size for title
<code>weight</code>	Font weight for title. Should be either "normal", "bold", "bolder" or "lighter"
<code>GapBetweenGraphicText</code>	Gap between icon and text in legend
<code>GapBetweenLines</code>	Gap between each two lines in legend
<code>data</code>	A list of legend with details including type, color, opacity, circleSize, rectSize, lineWidth, lineHeight, text, textSize and textWeight. Details can be found on document
<code>...</code>	Ignored

Value

The module tracks for legend modules.

Examples

```

legend1 <- list(type= "circle", color="#1E77B4",opacity="1.0",circleSize="8",text= "C.CK",
textSize= "14",textWeight="normal")
legend2 <- list(type= "circle", color="#AEC7E8",opacity="1.0",circleSize="8",text= "C.NPK",
textSize= "14",textWeight="normal")
Circos(CircosLegend('legend01', title = "legend",data=list(legend1,legend2),size = 20))

```

CircosLine

LINE module

Description

Create a multi-layer line plot

Usage

```

CircosLine(
  modulename,
  compareGroup = 1,
  maxRadius = 108,
  minRadius = 95,
  ValueAxisManualScale = FALSE,
  ValueAxisMaxScale = 10,
  ValueAxisMinScale = 0,
  color = "red",
  width = 2,
  type = "cardinal",
  animationDisplay = FALSE,
  animationDirection = "S2E",
  animationTime = 2000,
  animationDelay = 20,
  animationType = "bounce",
  data,
  ...
)

```

Arguments

<code>modulename</code>	The name of the new module
<code>compareGroup</code>	The group number of this module in compare module
<code>maxRadius, minRadius</code>	Where the module should begin and end
<code>ValueAxisManualScale</code>	Whether manually control the scale of value
<code>ValueAxisMaxScale, ValueAxisMinScale</code>	The max and min scale value for manually control
<code>color</code>	Color for line
<code>width</code>	Width for line
<code>type</code>	Type for line, could be linear, cardinal, basis and monotone
<code>animationDisplay</code>	Whether display animation
<code>animationDirection</code>	The direction of animation, could be S2E(start to end) or E2S(end to start)
<code>animationTime, animationDelay, animationType</code>	The time, delay and display type for animation
<code>data</code>	A list of value with details including chr, pos, des, value and html. Details can be found on document
<code>...</code>	Ignored

Value

The module tracks for line modules

Examples

```
lineData<-lineExample
Circos(CircosLine('LINE01', data = lineData,maxRadius=200,minRadius=150,color= "#ff0031")+
CircosBackground('BG01',minRadius = 205,maxRadius = 150))
```

CircosLink

*LINK module***Description**

Create a link of two specific region in genome

Usage

```
CircosLink(
  modulename,
  compareGroup = 1,
  radius = 108,
  fillColor = "red",
  width = 3,
  type = "Q",
  displayLinkAxis = TRUE,
  axisColor = "#B8B8B8",
  axisWidth = 0.5,
  axisPad = 3,
  displayLinkLabel = TRUE,
  labelColor = "red",
  labelSize = 13,
  labelPad = 8,
  animationDisplay = FALSE,
  animationDirection = "1to2",
  animationTime = 2000,
  animationDelay = 20,
  animationType = "bounce",
  data,
  ...
)
```

Arguments

modulename	The name of the new module
compareGroup	The group number of thic module in compare module
radius	Radius of link circle
fillColor	Color for link
width	Width for link

type	Type of link, could be Q/S/T
displayLinkAxis	Whether display axis for link or not
axisColor	The color for axis
axisWidth	The width for axis
axisPad	The pad for axis
displayLinkLabel	Whether display label for link or not
labelColor	The color for label
labelSize	The size for label
labelPad	The pad for label
animationDisplay	Whether display animation
animationDirection	The direction of link animation, could be 1to2 or 2to1
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of link with details including g1chr, g1start, g1end, g2chr, g2start, g2end, g1name, g2name, fusion, link and html. Details can be found on document
...	Ignored

Value

The module tracks for link modules

Examples

```
linkData<-linkExample
Circos(CircosLink('LINK', data = linkData,LinkRadius= 140,fillColor= "#9e9ac6",width= 2,
axisPad= 3,labelPad=8,animationDisplay=TRUE,animationDirection="1to2", animationType= "linear" ))
```

Description

Create a lollipop plot

Usage

```

CircosLollipop(
  modulename,
  compareGroup = 1,
  fillColor = "#9400D3",
  secondColor = "#FFFFFF",
  pointType = "circle",
  circleSize = 2,
  diamondWidth = 10,
  diamondHeight = 5,
  rectWidth = 2,
  rectHeight = 2,
  stroke = TRUE,
  strokeColor = "#000000",
  strokeWidth = 0.5,
  lineAutoHeight = TRUE,
  lineAutoMaximumHeightZoomRate = 1,
  lineHeightRate = 0.75,
  lineWidth = 2,
  lineColor = "#000000",
  realStart = 0,
  ValueAxisManualScale = FALSE,
  ValueAxisMaxScale = 10,
  ValueAxisMinScale = 0,
  animationDisplay = FALSE,
  animationTime = 2000,
  animationDelay = 20,
  animationType = "bounce",
  data,
  ...
)

```

Arguments

<code>modulename</code>	The name of the new module
<code>compareGroup</code>	The group number of this module in compare module
<code>fillColor</code>	Filling color for lollipop
<code>secondColor</code>	Second filling color for heterogeneous lollipop
<code>pointType</code>	The type for lollipop, could be circle, rect and diamond
<code>circleSize</code>	If circle, the size for lollipop
<code>diamondWidth, diamondHeight</code>	If diamond, the width and height for lollipop
<code>rectWidth, rectHeight</code>	If rect, the width and height for lollipop
<code>stroke</code>	Whether display the stroke for lollipop

strokeColor, strokeWidth	The color and width for stroke
lineAutoHeight	Whether auto assign the height for each lollipop
lineAutoMaximumHeightZoomRate	If auto assign, the zoom rate for each lollipop
lineHeightRate	If manually assign, the rate of lollipop compared to real value
lineWidth, lineColor	The width and color for the line of lollipop
realStart	The real start position for data in genome
ValueAxisManualScale	Whether manually control the scale of value
ValueAxisMaxScale, ValueAxisMinScale	The max and min scale value for manually control
animationDisplay	Whether display animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of lollipop value with details including protein, chr, pos, strand, Cancer-TypeNumber, color, link, Consequence, AA_pos, AA_change, type, link and html. Details can be found on document
...	Ignored

Value

The module tracks for lollipop modules.

Examples

```
lollipopData<-lollipopExample
arcData<-arcExample
Circos(CircosLollipop('Lollipop01', data=lollipopData, fillColor="#9400D3",
circleSize= 6, strokeColor= "#999999", strokeWidth= "1px", animationDisplay=TRUE, lineWidth= 2,
realStart= 101219350)+CircosArc('Arc01', outerRadius = 212, innerRadius = 224, data=arcData),
genome=list("EGFR"=1211),outerRadius = 220,genomeFillColor = c("grey"))
```

CircosModuleList	Create a list of modules
------------------	--------------------------

Description

This allows the use of the '+' and '-' operator on these lists

Usage

```

CircosModuleList()

## S3 method for class 'CircosModuleList'
x + ...

## S3 method for class 'CircosModuleList'
x - ...

```

Arguments

`x` The moduleList on which other modules should be added or removed

`...` The modules to add (as moduleLists) or to remove (as module names)

Value

The list of all tracks of modules.

CircosScatter

SCATTER module

Description

Create a point plot

Usage

```

CircosScatter(
  modulename,
  compareGroup = 1,
  radius = 140,
  innerCircleSize = 1,
  outerCircleSize = 5,
  innerCircleColor = "#F26223",
  outerCircleColor = "#F26223",
  innerPointType = "circle",
  outerPointType = "circle",
  innerrectWidth = 2,
  innerrectHeight = 2,
  outerrectWidth = 2,
  outerrectHeight = 2,
  outerCircleOpacity = 1,
  random_data = 0,
  animationDisplay = FALSE,
  animationInitialPositionX = 0,
  animationInitialPositionY = 0,
  animationTime = 2000,

```

```

    animationDelay = 20,
    animationType = "bounce",
    data,
    ...
)

```

Arguments

<code>modulename</code>	The name of the new module
<code>compareGroup</code>	The group number of this module in compare module
<code>radius</code>	Radius of scatter circle
<code>innerCircleSize, outerCircleSize</code>	If circle, inner and outer circle size
<code>innerCircleColor, outerCircleColor</code>	If circle, inner and outer circle color
<code>innerPointType, outerPointType</code>	The type for inner and outer point, could be circle or rect
<code>innerrectWidth, innerrectHeight</code>	If rect, inner width and height
<code>outerrectWidth, outerrectHeight</code>	If rect, inner width and height
<code>outerCircleOpacity</code>	If circle, the opacity for outer circle
<code>random_data</code>	Scatter position fluctuation
<code>animationDisplay</code>	Whether display animation
<code>animationInitialPositionX, animationInitialPositionY</code>	The initial coordinates for animation
<code>animationTime, animationDelay, animationType</code>	The time, delay and display type for animation
<code>data</code>	A list of value with details including chr, start, end, name, des, link and html. Details can be found on document
<code>...</code>	Ignored

Value

The module tracks for scatter modules

Examples

```

scatterData<-scatterExample
Circos(CircosScatter('SCATTER01', data = scatterData, radius=180, innerCircleColor= "#3d6390",
outerCircleColor= "#99cafe", random_data= 40))

```

CircosSnp

*SNP module***Description**

Create SNPs are defined by genomic coordinates and associated with a numerical value

Usage

```
CircosSnp(
  modulename,
  compareGroup = 1,
  minRadius = 153,
  maxRadius = 205,
  fillColorType = "specific",
  fillColor = "#9400D3",
  fillr2Color = c("13#ff0031", "#ff0031", "#ff0031", "#ff0031", "#ff0031"),
  ValueAxisManualScale = FALSE,
  ValueAxisMaxScale = 10,
  ValueAxisMinScale = 0,
  pointType = "circle",
  circleSize = 2,
  rectWidth = 2,
  rectHeight = 2,
  animationDisplay = FALSE,
  animationInitialPositionX = 0,
  animationInitialPositionY = 0,
  animationTime = 2000,
  animationDelay = 20,
  animationType = "bounce",
  data,
  ...
)
```

Arguments

<code>modulename</code>	The name of the new module
<code>compareGroup</code>	The group number of this module in compare module
<code>maxRadius, minRadius</code>	Where the module should begin and end
<code>fillColorType</code>	The type of filling color, could be either specific or r2(means based on r2)
<code>fillColor</code>	If specific, the color for SNP filling
<code>fillr2Color</code>	If r2, the color for SNP filling
<code>ValueAxisManualScale</code>	Whether manually control the scale of value

ValueAxisMaxScale, ValueAxisMinScale	The max and min scale value for manually control
pointType	The type of SNP point, could be circle or rect
circleSize	If circle, the size for SNP circle
rectWidth	If rect, the width for SNP rect
rectHeight	If rect, the height for SNP rect
animationDisplay	Whether display animation
animationInitialPositionX, animationInitialPositionY	The initial position coordinates for animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of SNP value with details including chr, pos, value, des, color, r2value, link, index, image and html. Details can be found on document
...	Ignored

Value

The module tracks for snp modules

Examples

```
snpData<-snpExample
Circos(CircosSnp('SNP01', minRadius =150, maxRadius = 190, data = snpExample,fillColor= "#9ACD32",
  circleSize= 2, SNPAnimationDisplay=TRUE,SNPAnimationTime= 2000,SNPAnimationDelay= 0,
  SNPAnimationType= "linear") + CircosBackground('BG01',minRadius = 145, maxRadius = 200))
```

CircosText	<i>Text module</i>
------------	--------------------

Description

Text for better explanation of other modules

Usage

```
CircosText(
  modulename,
  text,
  x = 0,
  y = 0,
  size = "1.2em",
  weight = "bold",
  opacity = 1,
  color = "#000000",
```

```

    rotateRate = 0,
    animationDisplay = FALSE,
    animationInitialSize = 20,
    animationInitialWeight = "bold",
    animationInitialColor = "black",
    animationInitialOpacity = 1,
    animationInitialPositionX = 0,
    animationInitialPositionY = 0,
    animationInitialRotate = 0,
    animationDelay = 50,
    animationTime = 1000,
    animationType = "linear",
    ...
)

```

Arguments

modulename	The name of the new module
text	The details of text
x, y	The coordinates of the text
size	Font size
weight	Font weight. Should be either "normal", "bold", "bolder" or "lighter"
opacity	Font opacity
color	Font color
rotateRate	rotate rate for text
animationDisplay	Whether display animation or not
animationInitialSize	Initial text size in animation
animationInitialWeight	Initial text weight in animation
animationInitialColor	Initial text color in animation
animationInitialOpacity	Initial text opacity in animation
animationInitialPositionX, animationInitialPositionY	Initial text coordinates in animation(The parameter x,y will become the final position for text if animation displayed)
animationInitialRotate	Initial rotate rate in animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
...	Ignored

Value

The module tracks for text modules.

Examples

```
Circos(CircosText('text01', 'Annotation', color = '#DD2222', x = -40))
```

CircosWig	WIG module
-----------	------------

Description

Create a multi-layer line plot

Usage

```
CircosWig(  
    modulename,  
    compareGroup = 1,  
    maxRadius = 108,  
    minRadius = 95,  
    direction = "out",  
    ValueAxisManualScale = FALSE,  
    ValueAxisMaxScale = 10,  
    ValueAxisMinScale = 0,  
    color = "red",  
    opacity = 1,  
    strokeColor = "black",  
    strokeWidth = 1,  
    strokeType = "cardinal",  
    animationDisplay = FALSE,  
    animationTime = 2000,  
    animationDelay = 20,  
    animationType = "bounce",  
    data,  
    ...  
)
```

Arguments

- modulename The name of the new module
- compareGroup The group number of this module in compare module
- maxRadius, minRadius Where the module should begin and end
- direction The direction of plot, either inside or outside
- ValueAxisManualScale Whether manually control the scale of value
- ValueAxisMaxScale, ValueAxisMinScale The max and min scale value for manually control

color	Color for plot
opacity	Opacity for plot
strokeColor	The color for stroke
strokeWidth	The width for stroke
strokeType	Line type for stroke, could be linear, cardinal, basis and monotone
animationDisplay	Whether display animation
animationTime, animationDelay, animationType	The time, delay and display type for animation
data	A list of value with details including chr, pos, des, value and html. Details can be found on document
...	Ignored

Value

The module tracks for wig modules

Examples

```
wigData<-wigExample
Circos(CircosWig('WIG01', data = wigData, maxRadius= 200,minRadius= 150,strokeColor= "darkblue",
color= "lightblue",strokeType= "cardinal")+CircosBackground('BG01',minRadius = 205,maxRadius = 150)
,genome=list("chr8"=1000),outerRadius = 220)
```

cnvExample	<i>Cnv module example data</i>
------------	--------------------------------

Description

The data is in matrix with column names

Usage

```
cnvExample
```

Format

- A data frame with 7 columns:
- chr** chromosome
 - start** start position
 - end** end position
 - value** value
 - link** hyperlink for cnv
 - color** color
 - html** The external html language

geneExample	<i>Gene plot example data</i>
-------------	-------------------------------

Description

The data is in matrix with column names

Usage

geneExample

Format

A data frame with 8 columns:

chr chromosome
strand strand, - or +
start start position
end end position
type region type, gene or utr or cds
name name for description
link hyperlink for this region
html The external html language

heatmapExample	<i>Heatmap plot example data</i>
----------------	----------------------------------

Description

The data is in matrix with column names

Usage

heatmapExample

Format

A data frame with 7 columns:

chr chromosome
start start position
end end position
name name for description
value value
layer layer number
html The external html language

hg19_ideogram	<i>Ideogram for hg19</i>
---------------	--------------------------

Description

The ideogram for human hg19 reference including the color for each region

Usage

hg19_ideogram

Format

A data frame with 4 columns:

- chr** chromosome
- start** start position
- end** end position
- color** color

histogramExample	<i>Histogram plot example data</i>
------------------	------------------------------------

Description

The data is in matrix with column names

Usage

histogramExample

Format

A data frame with 7 columns:

- chr** chromosome
- start** start position
- end** end position
- name** name for description
- link** hyperlink
- value** value
- html** The external html language

lineExample	<i>Line plot example data</i>
-------------	-------------------------------

Description

The data is in matrix with column names

Usage

lineExample

Format

A data frame with 5 columns:

- chr** chromosome
- pos** position
- des** description
- value** value
- html** The external html language

linkExample	<i>Link plot example data</i>
-------------	-------------------------------

Description

The data is in matrix with column names

Usage

linkExample

Format

A data frame with 11 columns:

- g1chr** first chromosome
- g1start** first start position
- g1end** first end position
- g2chr** second chromosome
- g2start** second start position
- g2end** second end position
- g1name** first name

- g2name** second name
- fusion** fusion name
- link** hyperlink for link line
- html** The external html language

lollipopExample	<i>Lollipop plot example data</i>
-----------------	-----------------------------------

Description

The data is in matrix with column names

Usage

lollipopExample

Format

A data frame with 12 columns:

- protein** protein name
- chr** chromosome
- pos** position
- strand** strand, - or +
- CancerTypeNumber** Cancer type number
- color** color
- link** hyperlink
- Consequence** consequence
- AA_pos** AA_pos
- AA_change** AA_change
- type** type for mutation,Hetero or Homo
- html** The external html language

scatterExample	<i>Scatter plot example data</i>
----------------	----------------------------------

Description

The data is in matrix with column names

Usage

```
scatterExample
```

Format

A data frame with 7 columns:

chr chromosome

start start position

end end position

name name for scatter

des description

link hyperlink

html The external html language

snpExample	<i>Snp plot example data</i>
------------	------------------------------

Description

The data is in matrix with column names

Usage

```
snpExample
```

Format

A data frame with 10 columns:

chr chromosome

pos position

value value,such as p-value

des description

color color

r2value r2 value
link hyperlink for snp
index index for combination
image image for combination
html The external html language

wigExample

Wig plot example data

Description

The data is in matrix with column names

Usage

wigExample

Format

A data frame with 5 columns:

chr chromosome
pos position
des description
value value
html The external html language

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