

# Package ‘ggtreeDendro’

May 8, 2024

**Title** Drawing 'dendrogram' using 'ggtree'

**Version** 1.7.0

**Description** Offers a set of 'autoplot' methods to visualize tree-like structures (e.g., hierarchical clustering and classification/regression trees) using 'ggtree'. You can adjust graphical parameters using grammar of graphic syntax and integrate external data to the tree.

**Depends** ggtree (>= 3.5.3)

**Imports** ggplot2, stats, tidytree, utils

**Suggests** aplot, cluster, knitr, MASS, mdendro, prettydoc, pvclust, rmarkdown, testthat (>= 3.0.0), treeio, yulab.utils

**License** Artistic-2.0

**VignetteBuilder** knitr

**ByteCompile** true

**Encoding** UTF-8

**biocViews** Clustering, Classification, DecisionTree, Phylogenetics, Visualization

**Roxygen** list(markdown = TRUE)

**RoxygenNote** 7.2.3

**Config/testthat/edition** 3

**git\_url** <https://git.bioconductor.org/packages/ggtreeDendro>

**git\_branch** devel

**git\_last\_commit** d2ae38f

**git\_last\_commit\_date** 2024-04-30

**Repository** Bioconductor 3.20

**Date/Publication** 2024-05-08

**Author** Guangchuang Yu [aut, cre, cph]

(<<https://orcid.org/0000-0002-6485-8781>>),

Shuangbin Xu [ctb] (<<https://orcid.org/0000-0003-3513-5362>>),

Chuanjie Zhang [ctb]

**Maintainer** Guangchuang Yu <[guangchuangyu@gmail.com](mailto:guangchuangyu@gmail.com)>

## Contents

geom_line_cutree . . . . .	2
geom_rect_subtree . . . . .	3
ggtreeDendro . . . . .	3
reexports . . . . .	4
scale_color_subtree . . . . .	6
<b>Index</b>	<b>7</b>

---

geom_line_cutree	<i>geom_line_cutree</i>
------------------	-------------------------

---

## Description

geom\_line\_cutree

## Usage

```
geom_line_cutree(group, linetype = "dashed", offset = 0, ...)
```

## Arguments

group	output of cutree or number of subtree
linetype	linetype
offset	offset of the line
...	additional parameters to set the line (e.g., color, size, etc.)

## Value

line layer

## Examples

```
d <- dist(USArrests)
hc <- hclust(d, "ave")
autoplot(hc) + geom_line_cutree(4)
```

---

geom_rect_subtree	<i>geom_rect_subtree</i>
-------------------	--------------------------

---

**Description**

geom\_rect\_subtree

**Usage**

```
geom_rect_subtree(group = NULL, color = "red", ...)
```

**Arguments**

group	output of cutree or number of subtree
color	border color to highlight subtrees
...	additional parameters pass to 'ggtree::highlight'

**Value**

rect layer

**See Also**

[geom\\_highlight](#);

**Examples**

```
d <- dist(USArrests)
hc <- hclust(d, "ave")
autoplot(hc) + geom_rect_subtree(4)
```

---

ggtreeDendro	<i>providing autoplot methods for many hierarchical clustering results based on ggtree.</i>
--------------	---

---

**Description**

This package implements a set of 'autoplot()' methods to display tree structure. The output of it is a 'ggtree' object, which can be annotated by adding layers using 'ggplot2' syntax. Users also can integrate associated data to annotate the tree using 'ggtree' and 'ggtreeExtra' packages.

---

reexports

*Objects exported from other packages*

---

## Description

These objects are imported from other packages. Follow the links below to see their documentation.

**ggplot2** [autoplot](#)

## Usage

```
## S3 method for class 'hclust'  
autoplot(object, layout = "dendrogram", ladderize = FALSE, hang = 0.1, ...)
```

```
## S3 method for class 'linkage'  
autoplot(object, layout = "dendrogram", ladderize = FALSE, hang = 0.1, ...)
```

```
## S3 method for class 'dendrogram'  
autoplot(object, layout = "dendrogram", ladderize = FALSE, hang = 0.1, ...)
```

```
## S3 method for class 'agnes'  
autoplot(object, layout = "dendrogram", ladderize = FALSE, hang = 0.1, ...)
```

```
## S3 method for class 'diana'  
autoplot(object, layout = "dendrogram", ladderize = FALSE, hang = 0.1, ...)
```

```
## S3 method for class 'twins'  
autoplot(object, layout = "dendrogram", ladderize = FALSE, hang = 0.1, ...)
```

```
## S3 method for class 'bclust'  
autoplot(object, ...)
```

```
## S3 method for class 'hdbscan'  
autoplot(object, ...)
```

```
## S3 method for class 'hkmeans'  
autoplot(object, ...)
```

```
## S3 method for class 'dendro'  
autoplot(object, ...)
```

```
## S3 method for class 'pvclust'  
autoplot(  
  object,  
  layout = "dendrogram",  
  ladderize = FALSE,  
  label_edge = FALSE,
```

```
    pvrect = FALSE,  
    alpha = 0.95,  
    hang = 0.1,  
    ...  
  )  
  
## S3 method for class 'ClusterExperiment'  
autoplot(object, layout = "rectangular", ...)  
  
## S3 method for class 'genoMatrixeR'  
autoplot(object, hctype = "rows", ...)  
  
## S3 method for class 'multiLocalZScore'  
autoplot(object, ...)
```

### Arguments

object	input object
layout	layout for plotting the tree
ladderize	logical whether ladderize the tree (default FALSE)
hang	numeric The fraction of the tree plot height by which labels should hang below the rest of the plot. A negative value will cause the labels to hang down from 0.
...	additional paramters that passed to ggtree
label_edge	logical whether display the label of edge (only for pvclust object), default is FALSE.
pvrect	logical whether display the clusters with relatively high/low p-values, default is FALSE. (only for pvclust object)
alpha	numeric the threshold value for p-values, default is 0.95 (only for pvclust object).

### Value

ggtree object

### Examples

```
d <- dist(USArrests)  
hc <- hclust(d, "ave")  
autoplot(hc) + geom_tiplab()
```

---

scale\_color\_subtree    *scale\_color\_subtree*

---

**Description**

scale tree color by subtree (e.g., output of cutree, kmeans, or other clustering algorithm)

**Usage**

```
scale_color_subtree(group)
scale_colour_subtree(group)
```

**Arguments**

group                    taxa group information

**Value**

updated tree view

**Author(s)**

Guangchuang Yu

**Examples**

```
d <- dist(USArrests)
hc <- hclust(d, "ave")
autoplot(hc) + scale_color_subtree(3)
```

# Index

## \* **internal**

- reexports, 4
  
- autoplot, 4
- autoplot (reexports), 4
  
- geom\_highlight, 3
- geom\_line\_cutree, 2
- geom\_rect\_subtree, 3
- ggtreeDendro, 3
  
- reexports, 4
  
- scale\_color\_subtree, 6
- scale\_colour\_subtree  
    (scale\_color\_subtree), 6