

Package ‘cofeatureR’

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Title Generate Cofeature Matrices

Version 1.1.0

Description Generate cofeature (feature by sample) matrices. The package utilizes `ggplot2::geom_tile()` to generate the matrix allowing for easy additions from the base matrix.

Depends R (>= 3.1.0)

Imports ggplot2 (>= 1.0.0), dplyr (>= 0.4.3), lazyeval (>= 0.1.10)

URL <https://github.com/tinyheero/cofeatureR>

BugReports <https://github.com/tinyheero/cofeatureR/issues>

License GPL-3

LazyData true

RoxygenNote 6.0.1

Suggests testthat

NeedsCompilation no

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Repository CRAN

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add_tiles	<i>Add tiles to the ggplot2</i>
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Description

Add tiles to the ggplot2

Usage

```
add_tiles(p1, in.df, tile.col, missing.fill.col, tile.border.size)
```

Arguments

p1	Existing ggplot2
in.df	A 3 column (feature, sampleID, type) data.frame object
tile.col	Border color of each cell. If not set, no border color is used.
missing.fill.col	Color of the cell that has missing values
tile.border.size	Integer to indicate the size of the tile borders.

cofeatureR	<i>cofeatureR: Generate Cofeature Matrices</i>
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Description

Generate cofeature (feature by sample) matrices. The package utilizes ggplot2::geom_tile to generate the matrix allowing for easy customization of additions from the base matrix.

plot_cofeature_mat	<i>Plot a Cofeature Matrix</i>
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Description

Generates a ggplot2::geom_tile plot of features by sample. It is able to deal with multiple types affecting the same sample.

Usage

```
plot_cofeature_mat(in.df, feature.order, sample.id.order, fill.colors,
  type.display.mode = c("multiple", "single"), type.order, tile.col = NA,
  rotate.x.labels, missing.fill.col, dot.flag = FALSE, dot.size,
  tile.flag = TRUE, drop.x = FALSE, tile.border.size = 1)
```

Arguments

in.df	A 3 column (feature, sampleID, type) data.frame object
feature.order	character vector indicating the order of the features in the final plot on the y-axis. If not set, then function will set it automatically
sample.id.order	character vector indicating the order of the samples in the final plot on the x-axis. If not set, then function will set it automatically
fill.colors	character vector indicating the colors of the different "types". The names should be the types with the value being the color
type.display.mode	Specify whether multiple or a single feature type can appear in the same feature/sample cell
type.order	Specify the "priority" of the feature types. This only has an effect when type.display.mode is set to single.
tile.col	Border color of each cell. If not set, no border color is used.
rotate.x.labels	Rotate the x-axes labels by a certain degree
missing.fill.col	Color of the cell that has missing values
dot.flag	Boolean to turn on/off dots (dot.flag)
dot.size	Column name indicating the size of the dots. Only takes effect if dot.flag is TRUE.
tile.flag	Boolean to turn on/off tiles (tile.flag)
drop.x	Boolean to drop levels (from a factor) in the x dimension.
tile.border.size	Integer to indicate the size of the tile borders.

Examples

```
## Not run:
v1 <- c("RCOR1", "NCOR1", "LCOR", "RCOR1", "RCOR1", "RCOR1", "RCOR1")
v2 <- c("sampleA", "sampleC", "sampleB", "sampleC", "sampleA", "sampleC", "sampleC")
v3 <- c("Deletion", "Deletion", "SNV", "Rearrangement", "SNV", "Rearrangement", "SNV")
v4 <- c(0.05, 0.5, 0.25, 0.01, 0.03, 0.24, 0.89)
v5 <- c(1, 2, 1, 1, 2, 2, 1)
feature.order <- c("RCOR1", "NCOR1", "LCOR")
sample.id.order <- c("sampleA", "sampleB", "sampleC")
in.df <- dplyr::data_frame(feature = v1, sampleID = v2, type = v3,
  p_value = -log10(v4), dir_flag = v5)
fill.colors <- c("Deletion" = "Blue", "Rearrangement" = "Green", "SNV" = "Red")

plot_cofeature_mat(in.df)

# With black tile color
plot_cofeature_mat(in.df, tile.col = "black")
```

```
# Fill in missing values with a lightgrey color
plot_cofeature_mat(in.df, tile.col = "black", missing.fill.col = "lightgrey")

# Rotate x-axes labels by 90 degrees
plot_cofeature_mat(in.df, rotate.x.labels = 90)

# Specify order of features, samples, and colors
plot_cofeature_mat(in.df, feature.order, sample.id.order,
  fill.colors = fill.colors)

# Specify each cell can only have one "feature type"
plot_cofeature_mat(in.df, feature.order, sample.id.order, fill.colors = fill.colors,
  type.display.mode = "single")

# Specify the specific priority of the "feature type" for cells with
# multiple features
plot_cofeature_mat(in.df, feature.order, sample.id.order, fill.colors = fill.colors,
  type.display.mode = "single", type.order = c("Rearrangement", "SNV", "Deletion"))

# Add dots to tiles for an additional layer of information
plot_cofeature_mat(in.df, dot.size = "p_value")

# Only display dots
plot_cofeature_mat(in.df, dot.flag = TRUE, dot.size = "p_value",
  tile.flag = FALSE)

# Samples will not be dropped
sample.id.order.new <- c("sampleA", "sampleB", "sampleC", "sampleD")
plot_cofeature_mat(in.df, tile.col = "black",
  sample.id.order = sample.id.order.new)

# Samples can be dropped by setting drop.x = TRUE
plot_cofeature_mat(in.df, tile.col = "black",
  sample.id.order = sample.id.order.new, drop.x = TRUE)

## End(Not run)
```

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