Package 'barplot3d'

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Type Package

Title Create 3D Barplots

Version 1.0.1

Description Creates 3D barplots. Includes a function for sequence context plots used in DNA sequencing analysis.

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Encoding UTF-8

LazyData true

Imports rgl

RoxygenNote 6.1.1

Suggests knitr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

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R topics documented:

bar3d *Adds a single 3D bar to the current scene*

Description

Adds a single 3D bar to the current scene

Usage

```
bar3d(x = c(0, 1), y = c(0, 1), z, alpha = 1, topcol = "#078E53",
  sidecol = "#aaaaaa", linecol = "#000000")
```

Arguments

x	The x dimensions of the bar, a vector of length 2 e.g. c(0,1).
y	The y dimensions of the bar, a vector of length 2 e.g. c(0,1).
z	The height of the bar, a single number, e.g 3.
alpha	The alpha channel (transparency) of the sides of the bar. Range 0-1.
topcol	The color of the top of the bar. Text description or hexadecimal RGB color, like that returned by rgb() e.g. "red" or "#078E53"
sidecol	The color of the sides of the bar. Text description or a hexadecimal RGB color, like that returned by rgb() e.g. "gray" or "#aaaaaa"
linecol	The color of the edges of the bar. Text description or be a hexadecimal RGB color, like that returned by rgb() e.g. "black" or "#000000"

Value

Nothing is returned (invisibly returns NULL).

Examples

```
bar3d(c(0,1),c(0,1),3,alpha=0.6,topcol="#078E53",sidecol="#aaaaaa",linecol="#000000")
```

barplot3d *Adds a 3D bar plot to the current RGL scene*

Description

Adds a 3D bar plot to the current RGL scene

Usage

```
barplot3d(rows, cols, x, y, z, alpha = 1, scalexy = 1, gap = 0.2,
  topcolors = c("#000000"), sidecolors = c("#aaaaaa"),
  linecolors = c("#000000"), theta = 50, phi = 40,
  gridlines = TRUE, xlabels = FALSE, ylabels = FALSE,
  zlabels = TRUE, xsub = FALSE, ysub = FALSE, zsub = FALSE)
```

Arguments

rows	How many rows the plotting area should have, an integer, e.g. 5.
cols	How many columns the plotting area should have, an integer, e.g. 5.
x	The x dimensions of each 3D bar, a vector of length 2 e.g. c(0,1).
y	The y dimensions of each 3D bar, a vector of length 2 e.g. c(0,1).
z	The height of each 3D bar, a numeric vector, e.g c(2,3,5,2,9).
alpha	The alpha channel (transparency) of the sides of 3D bars. Range 0-1.
scalexy	Scaling factor for x and y coordinates; this constant can be used to make the plot "skinnier" or "fatter".
gap	Gap between 3D bars (recommended values are 0 or 0.2).
topcolors	The color of the top of each 3D bar. Numeric vector of hexadecimal RGB colors, like those returned by rgb() e.g. "#078E53".
sidecolors	The color of the top of the bar. Should be a hexadecimal RGB color, like that returned by rgb() e.g. "#aaaaaa".
linecolors	The color of the edges of the bar. Should be a hexadecimal RGB color, like that returned by rgb() e.g. "#aaaaaa".
theta	Polar coordinate for viewing the 3D barplot; range 0 to 360 (rotates the plot).
phi	Polar coordinate for viewing the 3D barplot; range -90 to 90 (-90 is directly below, 90 directly above).
gridlines	Draw gridlines on the plot (TRUE or FALSE).
xlabels	Labels for the x axis (must be a vector of names the same length as "cols" parameter).
ylabels	Labels for the y axis (must be a vector of names the same length as "rows" parameter).
zlabels	Labels for the z axis; add numeric scale to the vertical dimension of the plot (TRUE or FALSE).
xsub	Descriptive label for the x axis.
ysub	Descriptive label for the y axis.
zsub	Descriptive label for the z axis.

Value

Nothing is returned (invisibly returns NULL).

Examples

```
barplot3d(rows=3,cols=5,z=1:12,topcolors=rainbow(12),alpha=0.7,scalexy=10,
xlabels=c("One","Two","Three","Four","Five"),ylabels=LETTERS[1:3])
```

`legoplot3d` *A wrapper function to create a sequence context "legoplot"*

Description

A wrapper function to create a sequence context "legoplot"

Usage

```
legoplot3d(contextdata, alpha = 1, scalexy = 1, gap = 0.2,
  sixcolors = "broad", theta = 50, phi = 40, gridlines = TRUE,
  labels = FALSE, zlabels = TRUE, zsub = FALSE)
```

Arguments

`contextdata`	A numeric vector of counts or frequencies of the 96 possible somatic mutations and trinucleotide contexts. These MUST be in the same order as in the example (see example and/or vignette).
`alpha`	The alpha channel (transparency) of the sides of 3D bars. Range 0-1.
`scalexy`	Scaling factor for x and y coordinates; this constant can be used to make the plot "skinnier" or "fatter".
`gap`	Gap between 3D bars.
`sixcolors`	The color scheme. "broad" for Broad Institute colors, "sanger" for Sanger Institute colors or a vector of six hexadecimal RGB colors.
`theta`	Polar coordinate for viewing the 3D barplot; range 0 to 360 (rotates the plot).
`phi`	Polar coordinate for viewing the 3D barplot; range -90 to 90 (-90 is directly below, 90 directly above).
`gridlines`	Draw gridlines on the plot (TRUE or FALSE).
`labels`	Include the default axis labels (TRUE or FALSE).
`zlabels`	Labels for the z axis; add numeric scale to the vertical dimension of the plot (TRUE or FALSE).
`zsub`	Descriptive label for the z axis.

Value

Nothing is returned (invisibly returns NULL).

Examples

```
# Read in COSMIC signature probabilities
x=system.file("extdata", "signature_probabilities.txt", package = "barplot3d")
sigdata=read.table(x,header=TRUE,stringsAsFactors = FALSE)
# Plot signature 2 with Sanger colors and some transparency so we can see all bars
legoplot3d(contextdata=sigdata$Signature_2,labels=TRUE,scalexy=0.05,sixcolors="sanger",
alpha=0.4,zsub="Probability")
```

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