

Package ‘scifigure’

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Title Visualize Reproducibility and Replicability in a Comparison of Scientific Studies

Version 0.1.1

Description Users may specify what fundamental qualities of a new study have or have not changed in an attempt to reproduce or replicate an original study. A comparison of the differences is visualized. Visualization approach follows Patil, Peng, and Leek (2016) <doi:10.1101/066803>.

Depends R (>= 3.3.1)

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Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

Imports grid

Suggests knitr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

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icons	<i>refigure icons</i>
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Description

A dataset containing icon images used to render all figures in the refigure package.

Usage

```
icons
```

Format

A list of length 44, with each item a 75x75x4 bitmap

init_experiments	<i>Initialize a skeleton data frame to create a figure with sci_figure</i>
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Description

init_experiments generates a dataframe with the proper row and column headers for user manipulation before calling sci_figure

Usage

```
init_experiments(nexp = 3, names = paste0("Exp", 1:nexp))
```

Arguments

nexp	The number of scientific experiments to be represented in the data frame, i.e. number of columns.
names	The names of each experiment, i.e. column names.

See Also

[sci_figure](#)

Examples

```
# Generate the default data frame of three experiments
init_experiments()

init_experiments(nexp = 5,
names = c("Run_16_01", "Run_16_04", "Run_16_07",
"Run_16_09", "Run_16_12"))
```

replicate_figure	<i>Create a figure depicting replicability</i>
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Description

replicate_figure is a wrapper around the sci_figure function to illustrate replicability in a two-experiment setting. Options for sci_figure are accepted, but this may be run as is.

Usage

```
replicate_figure(...)
```

Arguments

... Additional arguments passed to sci_figure.

See Also

[sci_figure](#) for additional arguments.

reproduce_figure	<i>Create a figure depicting reproducibility</i>
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Description

reproduce_figure is a wrapper around the sci_figure function to illustrate reproducibility in a two-experiment setting. Options for sci_figure are accepted, but this may be run as is.

Usage

```
reproduce_figure(...)
```

Arguments

... Additional arguments passed to sci_figure.

See Also

[sci_figure](#) for additional arguments.

sci_figure	<i>Create a figure depicting reproducibility/replicability of a set of scientific experiments</i>
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Description

sci_figure creates a graphical representation of changes in a set of subsequent studies or reproduction attempts as compared to an original study.

Usage

```
sci_figure(experiments, hide_stages = NULL, names_of_stages = TRUE)
```

Arguments

experiments	A data frame, which can be initialized with <code>init_experiments()</code> , whose rownames are the predefined stages of a scientific experiments, columnnames are the names of each experiment, and cell values represent the state of each stage in each experiment (states discussed below).
hide_stages	(optional) A character vector with the names of the stages in the scientific experiment, i.e. rownames of experiments, which the user wishes to suppress from the figure output. The default value of <code>hide_stages</code> is <code>NULL</code> , indicating that all stages will be displayed.
names_of_stages	Logical indicating whether or not the names of the stages should be displayed.

Note

For the parameter `experiments`, the four values any cell may take are: `observed`, `different`, `unobserved`, `incorrect`.

See Also

[init_experiments](#)

Examples

```
# Initialize the default experiments data frame
exps <- init_experiments()
sci_figure(exps)
sci_figure(exps, hide_stages = c("population", "analyst"))

# Do some manual manipulation to the experiments

exps["analyst", "Exp2"] <- "different"
exps["code", c("Exp2", "Exp3")] <- "unobserved"
sci_figure(exps)
```

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