

Package: blotbench (via r-universe)

November 3, 2024

Title Easy, reproducible Westen blot editing

Version 0.1.0

Description blotbench includes a rudimentary visual image editor that helps you write reproducible, declarative, auditable code for editing western blots. Additionally, it provides tools for easily producing annotated, publication-ready images quickly.

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Encoding UTF-8

Language en

Roxygen list(markdown = TRUE)

RoxygenNote 7.2.3

Imports cli, datapasta, grid, magick, rlang, shiny, tibble

Suggests bladdr, knitr, rmarkdown, testthat (>= 3.0.0)

Remotes McConkeyLab/bladdr

VignetteBuilder knitr

Depends R (>= 2.10)

LazyData true

URL <https://kaiaragaki.github.io/blotbench/>

Config/testthat/edition 3

Repository <https://kaiaragaki.r-universe.dev>

RemoteUrl <https://github.com/KaiAragaki/blotbench>

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apply_transforms	<i>Manually apply transforms to imgs</i>
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Description

While functions like `wb_present` will automatically apply transformations, this function allows you to apply them manually.

Usage

```
apply_transforms(wb)
```

Arguments

wb	A wb object
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col_annot	<i>Get or set column annotation for a wb object</i>
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Description

Get or set column annotation for a wb object

Usage

```
col_annot(x)
```

```
col_annot(x) <- value
```

Arguments

x	A wb object
value	A data.frame with each column representing a variable, and each row representing a lane in the blot. NOTE: the order of the rows should annotate the lanes left-to-right AFTER image manipulation, which might include mirroring.

<code>imgs</code>	<i>Get or set images for a wb object</i>
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Description

Get or set images for a wb object

Usage

`imgs(x)`

`imgs(x) <- value`

`wb_add_img(x, imgs, names)`

Arguments

<code>x</code>	A wb object
<code>value</code>	Unused.
<code>imgs</code>	A magick-image containing one or more images
<code>names</code>	A character vector of names with length equal to <code>imgs</code> . Can be NULL if <code>row_annot</code> is NULL

Details

Note that `imgs<-` is unused - add images using `wb_add_img`

<code>is_wb</code>	<i>Test if the object is a wb</i>
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Description

Test if the object is a wb

Usage

`is_wb(x)`

Arguments

<code>x</code>	Object to be tested
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Value

Logical. TRUE if object inherits from the wb class

row_annot	<i>Get or set row annotation for a wb object</i>
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Description

Get or set row annotation for a wb object

Usage

```
row_annot(x)
```

```
row_annot(x) <- value
```

Arguments

x	A wb object
---	-------------

value	Either a data.frame with a single column name, or a character vector
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transforms	<i>Get or set transforms of a wb object</i>
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Description

Get or set transforms of a wb object

Usage

```
transforms(x)
```

```
transforms(x) <- value
```

Arguments

x	A wb object
---	-------------

value	A data.frame with the same number of rows as row_annot, if not null, and with columns width, height, xpos, ypos, rotate, and flip
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wb	<i>Create a wb object</i>
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Description

Create a wb object

Usage

```
wb(imgs, col_annot = NULL, row_annot = NULL, transforms = NULL)
```

Arguments

imgs	A vector of magick-images
col_annot	A data.frame, where each row is a lane and each column is a condition
row_annot	A data.frame, where each row is a band and the first column contains band names
transforms	A data.frame, where each row contains image transformation parameters for an item in imgs. Typically left blank unless you know what you're doing

wb_convert_scn	<i>Convert a .scn file to another format</i>
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Description

The BioRad ChemiDoc produces .scn files that can be converted to .tif(f) files using bfconvert.

Usage

```
wb_convert_scn(file, dest_name = NULL, overwrite = FALSE)
```

Arguments

file	Character. Path to the file to be converted.
dest_name	Character. File name and path to save to. If not supplied, will be same name and location as input, but with a .tif extension.
overwrite	Logical. Should the file be overwritten if it already exists?

Details

This function requires `bftools` to be installed

Value

Path to the saved file

Examples

```
## Not run:
wb_convert_scn("path/to/file.scn", dest_name = "~/new/path.tif")

## End(Not run)
```

wb_present	<i>Render a wb object into an image</i>
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Description

This function takes a wb object and (optionally) row and column annotations and produces an image from them.

Usage

```
wb_present(wb)
```

Arguments

wb	A wb object with at least images and transformations
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wb_visual_edit	<i>Interactively edit blots</i>
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Description

This function helps generate code needed to transform a blot to your specifications via a Shiny app

Usage

```
wb_visual_edit(wb)
```

Arguments

wb	A wb object
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