

# Package ‘aplot’

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**Title** Decorate a 'ggplot' with Associated Information

**Version** 0.1.7

**Description** For many times, we are not just aligning plots as what 'cowplot' and 'patchwork' did. Users would like to align associated information that requires axes to be exactly matched in subplots, e.g. hierarchical clustering with a heatmap. This package provides utilities to align associated subplots to a main plot at different sides (left, right, top and bottom) with axes exactly matched.

**Imports** ggfun (>= 0.0.6), ggplot2, ggplotify, patchwork, magrittr, methods, utils

**Suggests** ggtree

**URL** <https://github.com/YuLab-SMU/aplot>

**License** Artistic-2.0

**Encoding** UTF-8

**RoxygenNote** 7.2.1

**NeedsCompilation** no

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## R topics documented:

as.patchwork . . . . .	2
gglist . . . . .	2
insert_left . . . . .	3
plot_list . . . . .	4
xlim2 . . . . .	5

<b>Index</b>	<b>7</b>
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as.patchwork	<i>as.patchwork</i>
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**Description**

as.patchwork

**Usage**

```
as.patchwork(x, align = "xy")
```

**Arguments**

x	object
align	"x","y","xy","none", align the axis of x/y or not.

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gglist	<i>construct a 'gglist' object</i>
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**Description**

constructure a 'gglist' object that contains a list of plots ('gglist') and parameters (via '...'), the object can be displayed via the 'plot\_list()' function.

**Usage**

```
gglist(gglist, ...)
```

**Arguments**

gglist	a list of plots
...	parameters for plotting the 'gglist'

**Value**

gglist object

**Author(s)**

Guangchuang Yu

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insert_left	<i>plot-insertion</i>
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**Description**

insert an associated plot to left, right, top and bottom of a main plot

**Usage**

```
insert_left(.data, plot, width = 1)
insert_right(.data, plot, width = 1)
insert_top(.data, plot, height = 1)
insert_bottom(.data, plot, height = 1)
```

**Arguments**

.data	an 'aplot' or 'gg' object
plot	a 'gg' plot to be inserted
width	relative width to the main plot
height	relative height to the main plot

**Details**

The first input serve as a main plot, and other plots can be progressively inserted to different sides on left, right, top and bottom.

**Value**

an 'aplot' object

**Author(s)**

Guangchuang Yu

**Examples**

```
library(ggplot2)
library(aplot)

p <- ggplot(mtcars, aes(mpg, disp)) + geom_point()
p2 <- ggplot(mtcars, aes(mpg)) +
  geom_density(fill='steelblue', alpha=.5) +
  ggtree::theme_dendrogram()
p3 <- ggplot(mtcars, aes(x=1, y=disp)) +
  geom_boxplot(fill='firebrick', alpha=.5) +
```

```

      theme_void()
ap <- p %>%
  insert_top(p2, height=.3) %>%
  insert_right(p3, width=.1)

ap
ap[2, 1] <- ap[2, 1] + theme_bw()
ap[2, 1] <- ap[2, 1] +
  aes(color = as.factor(am)) +
  scale_color_manual(values = c('steelblue', 'darkgreen'))
ap[1, 1] <- ap[1, 1] + theme(axis.line.x.bottom=element_line())
ap

```

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plot\_list

*plot a list of ggplot objects*


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### Description

plot a list of ggplot objects using patchwork, similar to ‘cowplot::plot\_grid(plotlist)’

### Usage

```

plot_list(
  ...,
  gglist = NULL,
  ncol = NULL,
  nrow = NULL,
  byrow = NULL,
  widths = NULL,
  heights = NULL,
  guides = NULL,
  labels = NULL,
  tag_levels = NULL,
  tag_size = 14,
  design = NULL,
  output = "patchwork"
)

```

### Arguments

...	list of plots to be arranged
gglist	(optional) list of plots
ncol	number of columns
nrow	number of rows
byrow	If "FALSE" the plots will be filled in in column-major order
widths	relative widths

heights	relative heights
guides	A string specifying how guides should be treated in the layout.
labels	manual specified labels to label plots
tag_levels	format to label plots, will be disable if 'labels' is not NULL
tag_size	size of tags
design	specification of the location of areas in the layout
output	one of 'gglist' or 'patchwork'

**Value**

composite plot

**Author(s)**

Guangchuang Yu

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xlim2	<i>xlim2</i>
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**Description**

set axis limits (x or y) of a 'ggplot' object (left hand side of '+') based on the x ('xlim2') or y ('ylim2') limits of another 'ggplot' object (right hand side of '+'). This is useful for using 'cowplot' or 'patchwork' to align 'ggplot' objects.

**Usage**

```
xlim2(gg, limits = NULL)
```

```
ylim2(gg, limits = NULL)
```

**Arguments**

gg	ggplot object
limits	vector of limits. If NULL, determine from 'gg'.

**Value**

ggplot2 object with new limits

**Author(s)**

Guangchuang Yu

**Examples**

```
library(ggplot2)
library(aplot)
p1 <- ggplot(mtcars, aes(cyl)) + geom_bar()
p2 <- ggplot(subset(mtcars, cyl != 4), aes(cyl)) + geom_bar()
p2 + xlim2(p1)
```

# Index

`as.patchwork`, 2

`gglist`, 2

`insert_bottom(insert_left)`, 3

`insert_left`, 3

`insert_right(insert_left)`, 3

`insert_top(insert_left)`, 3

`plot_list`, 4

`xlim2`, 5

`ylim2(xlim2)`, 5