

# Package ‘aplot’

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

**Version** 0.1.2

**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 (>= 0.0.4), ggplot2, ggplotify, patchwork, magrittr, methods, utils, yulab.utils

**Suggests** ggtree

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

**License** Artistic-2.0

**Encoding** UTF-8

**RoxygenNote** 7.1.2

**NeedsCompilation** no

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**Repository** CRAN

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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)

```

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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
)

```

### 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            |

**Value**

composite plot

**Author(s)**

Guangchuang Yu

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xlim2

*xlim2*

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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)
```

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|        |                                      |
|--------|--------------------------------------|
| yrange | <i>plot range of a ggplot object</i> |
|--------|--------------------------------------|

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**Description**

extract x or y ranges of a ggplot

**Usage**

yrange(gg)

xrange(gg)

**Arguments**

gg                    a ggplot object

**Value**

range of selected axis

**Author(s)**

Guangchuang Yu

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