

Package ‘viridis’

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Type Package

Title Default Color Maps from 'matplotlib'

Version 0.5.0

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Description Implementation of the 'viridis' - the default -, 'magma', 'plasma', 'inferno', and 'cividis' color maps for 'R'. 'viridis', 'magma', 'plasma', and 'inferno' are ported from 'matplotlib' <<http://matplotlib.org/>>, a popular plotting library for 'python'. 'cividis', was developed by Jamie R. Nuñez and Sean M. Colby. These color maps are designed in such a way that they will analytically be perfectly perceptually-uniform, both in regular form and also when converted to black-and-white. They are also designed to be perceived by readers with the most common form of color blindness (all color maps in this package) and color vision deficiency ('cividis' only).

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LazyData TRUE

Encoding UTF-8

Depends R (>= 2.10), viridisLite (>= 0.2.0)

Imports stats, ggplot2 (>= 1.0.1), gridExtra

Suggests hexbin (>= 1.27.0), scales, MASS, knitr, dichromat, colorspace, rasterVis, httr, mapproj, vdiff, svglite (>= 1.2.0), testthat, covr, rmarkdown, rgdal

VignetteBuilder knitr

URL <https://github.com/sjmgarnier/viridis>

BugReports <https://github.com/sjmgarnier/viridis/issues>

RoxygenNote 6.0.1

NeedsCompilation no

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scale_color_viridis	<i>Viridis color scales</i>
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Description

Uses the viridis color scale.

Usage

```
scale_color_viridis(..., alpha = 1, begin = 0, end = 1, direction = 1,
  discrete = FALSE, option = "D")
```

```
scale_colour_viridis(..., alpha = 1, begin = 0, end = 1, direction = 1,
  discrete = FALSE, option = "D")
```

```
scale_fill_viridis(..., alpha = 1, begin = 0, end = 1, direction = 1,
  discrete = FALSE, option = "D")
```

Arguments

...	parameters to <code>discrete_scale</code> or <code>scale_fill_gradientn</code>
alpha	pass through parameter to <code>viridis</code>
begin	The (corrected) hue in [0,1] at which the viridis colormap begins.
end	The (corrected) hue in [0,1] at which the viridis colormap ends.
direction	Sets the order of colors in the scale. If 1, the default, colors are as output by viridis_pal . If -1, the order of colors is reversed.
discrete	generate a discrete palette? (default: FALSE - generate continuous palette)
option	A character string indicating the colormap option to use. Four options are available: "magma" (or "A"), "inferno" (or "B"), "plasma" (or "C"), "viridis" (or "D", the default option) and "cividis" (or "E").

Details

For `discrete == FALSE` (the default) all other arguments are as to [scale_fill_gradientn](#) or [scale_color_gradientn](#). Otherwise the function will return a `discrete_scale` with the plot-computed number of colors.

See [viridis](#) for more information on the color scale.

Author(s)

Noam Ross <noam.ross@gmail.com> / [@noamross](#) (continuous version), Bob Rudis <bob@rud.is>
/ [@hrbrmstr](#) (combined version)

Examples

```
library(ggplot2)

# ripped from the pages of ggplot2
p <- ggplot(mtcars, aes(wt, mpg))
p + geom_point(size=4, aes(colour = factor(cyl))) +
  scale_color_viridis(discrete=TRUE) +
  theme_bw()

# ripped from the pages of ggplot2
dsub <- subset(diamonds, x > 5 & x < 6 & y > 5 & y < 6)
dsub$diff <- with(dsub, sqrt(abs(x-y))* sign(x-y))
d <- ggplot(dsub, aes(x, y, colour=diff)) + geom_point()
d + scale_color_viridis() + theme_bw()

# from the main viridis example
dat <- data.frame(x = rnorm(10000), y = rnorm(10000))

ggplot(dat, aes(x = x, y = y)) +
  geom_hex() + coord_fixed() +
  scale_fill_viridis() + theme_bw()

library(ggplot2)
library(MASS)
library(gridExtra)

data("geyser", package="MASS")

ggplot(geyser, aes(x = duration, y = waiting)) +
  xlim(0.5, 6) + ylim(40, 110) +
  stat_density2d(aes(fill = ..level..), geom="polygon") +
  theme_bw() +
  theme(panel.grid=element_blank()) -> gg

grid.arrange(
  gg + scale_fill_viridis(option="A") + labs(x="Viridis A", y=NULL),
  gg + scale_fill_viridis(option="B") + labs(x="Viridis B", y=NULL),
  gg + scale_fill_viridis(option="C") + labs(x="Viridis C", y=NULL),
  gg + scale_fill_viridis(option="D") + labs(x="Viridis D", y=NULL),
  gg + scale_fill_viridis(option="E") + labs(x="Viridis E", y=NULL),
  ncol=3, nrow=2
)
```

viridis.map	<i>Original 'viridis' and 'cividis' color map</i>
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Description

A dataset containing the original RGB values of the default Matplotlib color map ('viridis') and the color vision deficiencies optimized color map 'cividis'. Sources: https://github.com/BIDS/colormap/blob/master/option_d.py and <https://github.com/pnnl/cmputil/blob/master/colormaps/cividis.txt>.

Usage

```
viridis.map
```

Format

A data frame with 1280 rows and 4 variables:

- R: Red value
- G: Green value
- B: Blue value
- opt: The colormap "option" (A: magma; B: inferno; C: plasma; D: viridis; E: cividis)

viridis_pal	<i>Viridis palette (discrete)</i>
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Description

Viridis palette (discrete)

Usage

```
viridis_pal(alpha = 1, begin = 0, end = 1, direction = 1,
            option = "D")
```

Arguments

alpha	pass through parameter to viridis
begin	The (corrected) hue in [0,1] at which the viridis colormap begins.
end	The (corrected) hue in [0,1] at which the viridis colormap ends.
direction	Sets the order of colors in the scale. If 1, the default, colors are ordered from darkest to lightest. If -1, the order of colors is reversed.
option	A character string indicating the colormap option to use. Four options are available: "magma" (or "A"), "inferno" (or "B"), "plasma" (or "C"), "viridis" (or "D", the default option) and "cividis" (or "E").

Details

Here is an example of a 20-element palette:

#440154FF	#481567FF	#482677FF	#453781FF	#404788FF
#39568CFF	#33638DFF	#2D708EFF	#287D8EFF	#238A8DFF
#1F968BFF	#20A387FF	#29AF7FFF	#3CBB75FF	#55C667FF
#73D055FF	#95D840FF	#B8DE29FF	#DCE319FF	#FDE725FF

See [viridis](#) for more information on the color scale.

Author(s)

Bob Rudis <bob@rud.is>

Examples

```
library(scales)
show_col(viridis_pal()(10))
```

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