Package 'ec50estimator'

May 8, 2026

Type Package

Title An Automated Way to Estimate EC50 for Stratified Datasets

Version 0.1.0

Date 2020-09-07

Maintainer Kaique dos S. Alves <kaiquedsalves@gmail.com>

Description An implementation for estimating Effective control to 50% of growth inhibition (EC50) for multi isolates and stratified datasets. It implements functions from the drc package in a way that is displayed a tidy data.frame as output. Info about the drc package is available in Ritz C, Baty F, Streibig JC, Gerhard D (2015) <doi:10.1371/journal.pone.0146021>.

License MIT + file LICENSE

Encoding UTF-8

LazyData true

Imports dplyr, tidyr, tibble, magrittr, drc

RoxygenNote 7.0.2

VignetteBuilder knitr

Suggests knitr, rmarkdown, ggplot2, ggridges, cowplot

URL https://github.com/AlvesKS/ec50estimator

BugReports https://github.com/AlvesKS/ec50estimator/issues

NeedsCompilation no

Author Kaique dos S. Alves [aut, cre] (ORCID: <https://orcid.org/0000-0001-9187-0252>)

Repository CRAN

Date/Publication 2020-09-15 09:40:06 UTC

Contents

estimate_EC50 *Estimate Efective dose (EC50) for multi isolate data set*

Description

Estimate Efective dose (EC50) for multi isolate stratified data set.

Usage

```
estimate_EC50(formula, data, EC_lvl = 50, isolate_col,
strata_col = NULL,
fct,interval = c("none", "delta", "fls", "tfls"))
```

Arguments

formula	An object of class "formula.(e.g. growth ~ dose")
data	A data.frame in which the dose-response data is in
EC_lvl	Define the EC level. Default is 50
isolate_col	indicate the isolate colunm. Indicate the name inside "". (e.g. "isolates")
strata_col	indicate the strata colunms. If there are more then one colunms, indicate as a vector (e.g. c("region", "field"))
fct	A list with three or more elements specifying the non-linear function. Please, inform the model function with the :: operator to inform the drc package (e.g. drc::LL.4()). For more info, see "drm".
interval	A character string specifying the type of confidence intervals to be supplied. For more information see "ED"

Examples

```
# Load data
data(multi_isolate)

df_ec50 = estimate_EC50(growth~dose,
                        data =multi_isolate,
                        isolate_col = "isolate",
                        strata_col =  c("field","fungicida"),
                        interval = "delta",
                        fct = drc::LL.3())
head(df_ec50)
```

`multi_isolate` *Multi isolate dataset*

Description

Dataset containing simulated data of mycelial growth under increasing fungicide doses for 50 fungal isolates, two types of field (conventional and organic), and two different fungicides.

Usage

```
data("multi_isolate")
```

Format

A data frame with 3500 observations on the following 5 variables.

`isolate` a numeric vector

`field` a factor with levels `Conventional` `Organic`

`fungicida` a factor with levels `Fungicide A` `Fungicide B`

`dose` a numeric vector

`growth` a numeric vector

Examples

```
data(multi_isolate)
## maybe str(multi_isolate) ; plot(multi_isolate) ...
```

Index