

Package: ec50estimator (via r-universe)

August 28, 2024

Type Package

Title An Automated Way to Estimate EC50 for Stratified Datasets

Version 0.2.0

Date 2022-03-03

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](https://doi.org/10.1371/journal.pone.0146021)>.

License MIT + file LICENSE

Encoding UTF-8

LazyData true

Imports dplyr, tidyr, tibble, tidyselect, 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>

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

RemoteUrl <https://github.com/alvesks/ec50estimator>

RemoteRef HEAD

RemoteSha 8b41689ea4bbbe8d546e2b29f408d5072273cda9

Contents

ec50_multimodel	2
estimate_EC50	3
multi_isolate	4

ec50_multimodel	<i>Estimate Effective dose (EC50) for multi isolate data set using one or more models</i>
-----------------	---

Description

Estimate Effective dose (EC50) for multi isolate stratified data set using one or more models.

Usage

```
ec50_multimodel(formula, data, EC_lvl = 50,
  isolate_col, strata_col= NULL,
  fct, interval = c("none", "delta", "fls", "tfls"),
  type = c("relative", "absolute"))
```

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 column. Indicate the name inside "". (e.g. "isolates")
strata_col	indicate the strata columns. If there are more then one columns, indicate as a vector (e.g. c("region", "field"))
fct	A list specifying the non-linear models to be fitted. Please, inform the model functions with the :: operator to inform the drc package (e.g. list(drc::LL.4(), drc::LL.3())). For more info, see " drc::drm ".
interval	A character string specifying the type of confidence intervals to be supplied. For more information see " ED "
type	Whether the specified response levels are absolute or relative (default)

Value

A dataframe containing EC estimates and statistics for model selection for each model used. For more info, see "[drc::ED](#)".

Examples

```
data(multi_isolate)

# Load data
ec50_multimodel(growth ~ dose,
  data = multi_isolate,
  isolate_col = "isolate",
  strata_col = c("fungicida", "field"),
```

`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

* datasets

multi_isolate, 4

drc::drm, 2

drc::ED, 2

drm, 3

ec50_multimodel, 2

ED, 2, 3

estimate_EC50, 3

formula, 2, 3

multi_isolate, 4