Package 'xpose.nlmixr'

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Type Package

Title Graphical Diagnostics for Pharmacometric Models: Extension to 'nlmixr'

Version 0.3.0

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Description Extension to 'xpose' to support 'nlmixr'. Provides functions to import 'nlmixr' fit data into an 'xpose' data object, allowing the use of 'xpose' for 'nlmixr' model diagnostics.

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Encoding UTF-8

LazyData true

Depends R (>= 3.2), xpose (>= 0.4.2)

Imports ggplot2 (>= 2.2.1), nlmixr (>= 1.1.0-0), dplyr (>= 0.7.4), tibble (>= 2.0.0), stringr (>= 1.2.0), tidyr (>= 0.7.2), magrittr (>= 1.5), methods (>= 3.4.1), vpc (>= 1.0.2), nlme, crayon, rlang

RoxygenNote 7.1.2

NeedsCompilation no

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R topics documented:

`nlmixr_vpc_theme` *Default VPC theme for 'xpose.nlmixr'*

Description

Default VPC theme for 'xpose.nlmixr'.

Usage

```
nlmixr_vpc_theme
```

Format

An object of class `vpc_theme` of length 23.

Value

A list with 'vpc' theme specifiers.

`summarise_nlmixr_model` *Data summary function*

Description

Convert 'nlmixr' model output into an 'xpose' database

Usage

```
summarise_nlmixr_model(obj, model, software, rounding, runname)
```

Arguments

obj	nlmixr fit object to be evaluated
model	Model. Can be blank
software	Software that generated the model fit
rounding	Number of figures to round estimates to
runname	Name of the model object being converted

Value

A summary data object used by xpose_data_nlmixr.

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theme_xp_nlmixr *Default 'nlmixr' theme for 'xpose'*

Description

Default 'nlmixr' theme for 'xpose'.

Usage

```
theme_xp_nlmixr()
```

Value

A list with 'xpose' theme specifiers.

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theo_sd_fit *Single-dose theophylline PK data fit*

Description

Single-dose theophylline PK data fit using the first-order conditional estimation method with interaction (FOCEI) in 'nlmixr', a modified tibble.

Usage

```
data("theo_sd_fit")
```

Format

A tibble with 132 observations and 22 variables, and an additional 13 properties.

`ID` Individual identifier, a factor

`TIME` Time in hours, a numeric vector

`DV` Theophylline concentration, a numeric vector

`EVID` Event identifier, a numeric vector

`PRED` Population predictions, a numeric vector

`RES` Residuals, a numeric vector

`WRES` Weighted residuals, a numeric vector

`IPRED` Individual predictions, a numeric vector

`IRES` Individual residuals, a numeric vector

`IWRES` Individual weighted residuals, a numeric vector

`CPRED` Conditional predictions, a numeric vector

`CRES` Conditional residuals, a numeric vector

`CWRES` Conditional weighted residuals, a numeric vector

`eta.ka` Interindividual variability in ka, a numeric vector

`eta.cl` Interindividual variability in CL/F, a numeric vector

`eta.v` Interindividual variability in V/F, a numeric vector

`ka` Absorption rate in /h, a numeric vector

`cl` Apparent clearance in L/h, a numeric vector

`v` Apparent volume of distribution in L, a numeric vector

`cp` Theophylline concentration, a numeric vector

`depot` Amount of theophylline in the depot compartment, a numeric vector

`center` Amount of theophylline in the central compartment, a numeric vector

`omega` Omega matrix

`omegaR` Omega Correlation matrix

`shrink` Shrinkage table, includes skewness, kurtosis, and eta p-values

`parFixed` Fixed Effect Parameter Table

`theta` Fixed Parameter Estimates

`eta` Individual Parameter Estimates

`seed` Seed (if applicable)

`coefficients` Fixed and random coefficients

`meta` Model meta information environment

`modelName` Model name (from R function)

`dataName` Name of R data input

`simInfo` RxODE list for simulation

`sigma` List of sigma components and their values

Details

This dataset is an `nlmixr` fit object for demonstrating the use of `xpose.nlmixr`.

Source

NONMEM/nlme.

Examples

```
data(theo_sd_fit)
str(theo_sd_fit)
```

`xpose_data_nlmixr` *Import nlmixr output into xpose*

Description

Convert 'nlmixr' model output into an 'xpose' database.

Usage

```
xpose_data_nlmixr(
  obj = NULL,
  pred = NULL,
  wres = NULL,
  gg_theme = theme_readable(),
  xp_theme = theme_xp_default(),
  quiet,
  skip = NULL,
  ...
)
```

Arguments

`obj`	nlmixr fit object to be evaluated.
`pred`	Name of the population prediction variable to use for plotting. If unspecified, it will choose either "NPDE", "CWRES", and "RES" (in that order) if the column exists in the data.
`wres`	Name of the weighted residual variable to use for plotting. If unspecified, it will choose either "NPDE", "CWRES", and "RES" (in that order) if the column exists in the data.
`gg_theme`	A ggplot2 theme object.
`xp_theme`	An xpose theme or vector of modifications to the xpose theme (eg. `c(point_color = 'red', line_linetype = 'dashed')`).
`quiet`	Logical, if `FALSE` messages are printed to the console.
`skip`	Character vector be used to skip the import/generation of: 'data', 'files', 'summary' or any combination of the three.
`...`	Additional arguments to be passed to the `read_delim` functions.

Value

An xpose_data object suitable for use in 'xpose'.

Examples

```
xpdb <- xpose_data_nlmixr(obj = theo_sd_fit)
```

Index