

Package ‘gDRimport’

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Title Package for handling the import of dose-response data

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Description The package is a part of the gDR suite. It helps to prepare raw drug response data for downstream processing. It mainly contains helper functions for importing/loading/validating dose-response data provided in different file formats.

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Description

The package is a part of the gDR suite. It helps to prepare raw drug response data for downstream processing. It mainly contains helper functions for importing/loading/validating dose-response data provided in different file formats.

Value

package help page

Note

To learn more about functions start with `help(package = "gDRimport")`

Author(s)

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- Marc Hafner
- Sergiu Mocanu
- Dariusz Scigocki
- Allison Vuong
- Luca Gerosa
- Janina Smola

`.check_against_single_template_sheet`

Evaluate if template file with single sheet is present, if the name of the sheet is correct and if it can be fixed

Description

get sheets for given set of XLS files

Usage

`.check_against_single_template_sheet(ts)`

Arguments

`ts` list with template sheets info

Value

logical flag

`.check_file_structure` *Check the structure of raw data*

Description

Check the structure of raw data

Usage

```
.check_file_structure(  
  df,  
  filename,  
  sheet_name,  
  readout_offset,  
  n_row,  
  n_col,  
  bcode_idx,  
  bcode_col  
)
```

Value

NULL invisibly.

`.createPseudoData` *Add in pseudo-data for duration and cell reference division time*

Description

Add in pseudo-data for duration and cell reference division time

Usage

```
.createPseudoData(dt)
```

Value

data.table

`.extractDoseResponse` *Get dose and viability readouts and melt into large data table*

Description

Get dose and viability readouts and melt into large data table

Usage

```
.extractDoseResponse(pset)
```

Value

data.table with dose-reponse data

`.extract_or_create_assay`
Extracts an assay from a SummarizedExperiment object or creates a new one if it does not exist

Description

This function takes a SummarizedExperiment object and an assay name as input. If the specified assay already exists in the SummarizedExperiment object, it is returned. Otherwise, a new assay with the specified name is created and added to the SummarizedExperiment object. The new assay is initialized with NA values. This is useful for when multiple Summarized Experiments in a given MAE do not have the same assays. And it is necessary to have the same assays in all Summarized Experiments in order to convert the MAE to a PSet.

Usage

```
.extract_or_create_assay(SE, assay_name)
```

Arguments

SE	A SummarizedExperiment object
assay_name	A character string specifying the name of the assay to extract or create

Value

A SummarizedExperiment object with the specified assay

.fill_empty_wells *Correct plates with not fully filled readout values*

Description

Correct plates with not fully filled readout values

Usage

```
.fill_empty_wells(  
  df,  
  plate_rows,  
  data_rows,  
  exp_row,  
  exp_col,  
  numeric_regex = "\\d+$"  
)
```

Value

data.table with corrected plates data

.get_plate_size *Get plate size*

Description

Get plate size

Usage

```
.get_plate_size(df)
```

Details

All plate sizes assume 1.5x nrow = ncolumn.

Value

charvec with plate dims

`.removeNegatives` *Remove negative viabilities*

Description

Remove negative viabilities

Usage

```
.removeNegatives(dataset)
```

Value

data.table with positive values in column ReadoutValue

`.standardize_untreated_values`
Standardize untreated values to ignore cases

Description

Standardize untreated values to ignore cases

Usage

```
.standardize_untreated_values(df)
```

Value

data.table with standardized untreated values

`are_template_sheets_valid`
are template sheet valid?

Description

are template sheet valid?

Usage

```
are_template_sheets_valid(ts)
```


Arguments

ts list with (per file) template sheets

Value

logical flag

See Also

get_xl_sheets

check_metadata_against_spaces
Check metadata against spaces

Description

Check metadata against spaces

Usage

check_metadata_against_spaces(corrected_names, df_name)

Arguments

corrected_names a charvec with corrected colnames of df
df_name a name of data.table ("" by default)

Value

a charvec with corrected colnames of df

check_metadata_field_names
Check metadata field names

Description

Check metadata field names

Usage

check_metadata_field_names(corrected_names, df_name)

Arguments

corrected_names
a charvec with corrected colnames of df

df_name
a name of data.table ("" by default)

Value

a charvec with corrected colnames of df

check_metadata_headers

Check whether metadata headers are correct and make fixes if needed

Description

Check whether metadata headers are correct and make fixes if needed

Usage

```
check_metadata_headers(corrected_names, df_name)
```

Arguments

corrected_names
a charvec with corrected colnames of df

df_name
a name of data.table ("" by default)

Value

a charvec with corrected colnames of df

check_metadata_names *check_metadata_names*

Description

Check whether all metadata names are correct

Usage

```
check_metadata_names(col_df, df_name = "", df_type = NULL)
```

Arguments

col_df a character with colnames of df
df_name a name of data.table ("" by default)
df_type a type of a data.table (NULL by default)

Value

a charvec with corrected colnames of df

Examples

```
td <- get_test_data()
m_file <- manifest_path(td)
m_data <- read_excel_to_dt(m_file)
result <- check_metadata_names(col_df = colnames(m_data))
```

check_metadata_req_col_names

Check metadata for required column names

Description

Check metadata for required column names

Usage

```
check_metadata_req_col_names(col_df, df_name, df_type)
```

Arguments

col_df a charvec with corrected colnames of df
df_name a name of data.table ("" by default)
df_type a type of a data.table (NULL by default)

Value

NULL invisibly.

convert_MAE_to_PSet *Convert MultiAssayExperiment to TreatmentResponseExperiment*

Description

This function converts a MultiAssayExperiment generated by gDR into a TreatmentResponseExperiment for use in the PharmacoSx package. The resulting PharmacoSx can be used for pharmacogenomic analysis of drug response.

Usage

```
convert_MAE_to_PSet(mae, pset_name)
```

Arguments

mae A MultiAssayExperiment object generated by gDR.
pset_name A character string specifying the name of the resulting PharmacoSx object.

Value

A PharmacoSx object.

Examples

```
# Convert a MultiAssayExperiment object to a PharmacoSx object
m <- 20
n <- 10
rnames <- LETTERS[1:m]
cnames <- letters[1:n]
ref_gr_value <- matrix(runif(m * n), nrow = m, ncol = n, dimnames = list(rnames, cnames))
se <- SummarizedExperiment::SummarizedExperiment(assays = list(RefGRvalue = ref_gr_value),
                                                  rowData = S4Vectors::DataFrame(rnames),
                                                  colData = S4Vectors::DataFrame(cnames))
mae <- MultiAssayExperiment::MultiAssayExperiment(experiments = list("single-agent" = se))
convert_MAE_to_PSet(mae, "my_pset")
```

convert_pset_to_df *Convert a PharmacoSx to a data.table that is prepare for input into gDR pipeline*

Description

Convert a PharmacoSx to a data.table that is prepare for input into gDR pipeline

Usage

```
convert_pset_to_df(pharmacoset, run_parallel = TRUE, workers = 2L)
```

Arguments

pharmacoset	PharmacoSet object
run_parallel	logical, TRUE (default) if to run functions in Parallel, FALSE to run in serial
workers	integer, number of workers defaults to 2L if run_parallel is TRUE

Value

data.table of PharmacoSet's dose response data with column names aligned with gDR standard

Author(s)

Jermiah Joseph – collaboration with BHKLab

Examples

```
pset <- suppressMessages(getPSet(
  "Tavor_2020",
  psetDir = system.file("extdata/pset", package = "gDRimport"),
  use_local_PSets_list = TRUE
))
dt <- convert_pset_to_df(pset)
gDRutils::reset_env_identifiers()
```

correct_template_sheets

Correct names of the template sheets (if required)

Description

Correct names of the template sheets (if required)

Usage

```
correct_template_sheets(tfiles)
```

Arguments

tfiles	charvec with paths to template files
--------	--------------------------------------

Value

charvec with paths to corrected sheet names

detect_file_format *Detect format of results data*

Description

Detect format of results data

Usage

```
detect_file_format(results_file)
```

Arguments

results_file path to results data

Value

string of the detected file format

Examples

```
td2 <- get_test_Tecan_data()
detect_file_format(td2$r_files[1])
```

enhance_raw_edited_EnVision_df
Enhance raw edited EnVision data.table

Description

Enhance raw edited EnVision data.table

Usage

```
enhance_raw_edited_EnVision_df(df, barcode_col, headers)
```

Arguments

df raw data.table
barcode_col column number for barcode data
headers list with the headersa

Value

data.table derived from EnVision data

`fix_typos_with_reference`*Fix typos using reference data*

Description

Fix typos using reference data Evaluate given list of ids and try to update them

Usage

```
fix_typos_with_reference(  
  data,  
  ref,  
  method = c("exact", "grepl", "adist"),  
  fix_underscores = FALSE  
)
```

Arguments

<code>data</code>	list of charvec(s) or charvec with data
<code>ref</code>	charvec with reference data
<code>method</code>	charvec type of the method to be used 'exact' is used to find identical entries from 'ref' in the data (after corrections and uppercase'ing) 'grepl' is used to find entries from 'ref' that might be somehow pre- or post- fixed
<code>fix_underscores</code>	logical flag fix the issues with underscores in data identifiers?

Value

list or charvec with corrected data

`gdr_test_data-class` *gDR Test Data object*

Description

Object class `gdr_test_data` is build by function [get_test_data\(\)](#)

Value

object class `gdr_test_data` with primary test data

Slots

manifest_path character, path to manifest file
 result_path character, path(s) to results file
 template_path character, path(s) to data.table with template data
 ref_m_df character, data.table with manifest data
 ref_r1_r2 character, path to reference file with raw data for treated & untreated
 ref_r1 character, path to reference file with raw data for treated
 ref_t1_t2 character, path to reference template file with treated & untreated data
 ref_t1 character, path to reference template file with treated data

 getPSet

Get PharmacoSet

Description

Get PharmacoSet

Usage

```

getPSet(
  pset_name,
  psetDir = getwd(),
  canonical = FALSE,
  timeout = 600,
  use_local_PSets_list = FALSE
)

```

Arguments

pset_name string with the name of the PharmacoSet
 psetDir string with the temporary directory for the PharmacoSet
 canonical logical flag indicating if the PSet canonical
 timeout maximum number of seconds allowed for PSet download
 use_local_PSets_list logical flag if PSets list should be used from local. If FALSE PSets list will be taken from web.

Value

PharmacoSet object

Examples

```
suppressMessages(getPSet(  
  "Tavor_2020",  
  psetDir = system.file("extdata/pset", package = "gDRimport"),  
  use_local_PSets_list = TRUE  
))
```

```
get_df_from_raw_edited_EnVision_df
```

Get final results (as a data.table) from raw edited EnVision data.table

Description

Get final results (as a data.table) from raw edited EnVision data.table

Usage

```
get_df_from_raw_edited_EnVision_df(  
  df,  
  barcode_idx,  
  barcode_col,  
  n_row,  
  n_col,  
  fname,  
  sheet_name,  
  headers  
)
```

Arguments

df	raw data.table
barcode_idx	numeric vector with barcode indices
barcode_col	column number for barcode data
n_row	number of rows
n_col	number of columns
fname	file name
sheet_name	name of the Excel sheet
headers	list with the headers

Value

data.table derived from EnVision data

get_df_from_raw_unedited_EnVision_df

Get final results (as a data.table) from raw unedited EnVision data.table

Description

Get final results (as a data.table) from raw unedited EnVision data.table

Usage

```
get_df_from_raw_unedited_EnVision_df(df, n_row, n_col, barcode_col)
```

Arguments

df	raw data.table
n_row	number of rows
n_col	number of columns
barcode_col	column number for barcode data

Value

data.table derived from EnVision data

get_EnVision_properties

Get properties of EnVision data

Description

This function return properties of EnVision data

Usage

```
get_EnVision_properties(results.list, fname)
```

Arguments

results.list	list with EnVision data
fname	name of the input file

Value

list with EnVision propertiesa

get_excel_sheet_names *get Excel sheets names for a charvec of files for non-Excel files return 0*

Description

get Excel sheets names for a charvec of files for non-Excel files return 0

Usage

```
get_excel_sheet_names(fls)
```

Arguments

fls charvec with file pathsa

Value

list with one element per file with sheet names or 0 (for non-Excel file)

get_exception_data *get exception data*

Description

get exception data

Usage

```
get_exception_data(status_code = NULL)
```

Arguments

status_code A numeric value

Value

A tibble row with exception data or all exceptions

Examples

```
get_exception_data(1)  
get_exception_data()
```

get_expected_template_sheets

Get names of the sheets expected in templates xlsx

Description

Get names of the sheets expected in templates xlsx

Usage

```
get_expected_template_sheets(type = c("all", "core", "optional"))
```

Arguments

type charvec type of the sheets

Value

string with type of the sheets

get_plate_info_from_template_xlsx

Get plate info from template xlsx

Description

Get plate info from template xlsx

Usage

```
get_plate_info_from_template_xlsx(template_file, Gnumber_idx, idx)
```

Arguments

template_file character, file path(s) to template(s)

Gnumber_idx index with Gnumber data

idx template file index

Value

list with plate info

get_test_D300_data *get test D300 data*

Description

get test D300 data

Usage

`get_test_D300_data()`

Value

list with with input data (manifest/template/result paths) and related reference data (qs file paths)

Examples

`get_test_D300_data()`

get_test_data *get primary test data*

Description

get primary test data

Usage

`get_test_data()`

Value

object class "gdr_test_data" with with input data (manifest/template/result paths) and related reference data (qs file paths)

Examples

`get_test_data()`

`get_test_EnVision_data`*get test EnVision data*

Description

get test EnVision data

Usage

```
get_test_EnVision_data()
```

Value

list with with input data (manifest/template/result paths) and related reference data (.qs file paths)

Examples

```
get_test_EnVision_data()
```

`get_test_Tecan_data` *get test Tecan data*

Description

get test Tecan data

Usage

```
get_test_Tecan_data()
```

Value

list with with input data (manifest/template/result paths) and related reference data (qs file paths)

Examples

```
get_test_Tecan_data()
```

get_xl_sheets	<i>Get Excel sheets</i>
---------------	-------------------------

Description

get sheets for given set of XLS files

Usage

```
get_xl_sheets(files)
```

Arguments

files charvec with file paths

Value

named list where names are the excel filenames and the values are the sheets within each file

import_D300	<i>Import D300</i>
-------------	--------------------

Description

This functions takes a D300 file and generates corresponding template files

Usage

```
import_D300(D300_file, metadata_file, destination_path)
```

Arguments

D300_file character, file path to D300 file
 metadata_file character, file path to file with mapping from D300 names to Gnumbers
 destination_path character, path to folder where template files will be generated

Details

For example, wells treated with 2 drugs in combination will result in 4 sheets per plate.

- Sheet 1: Drug 1
- Sheet 2: Conc of Drug 1
- Sheet 3: Drug 2
- Sheet 4: Conc of Drug 2

Value

Create one Excel file per plate. Each sheet in each plate file describes the drugs and corresponding concentrations of what was tested in each well.

Examples

```
td3 <- get_test_D300_data()[["f_96w"]]
o_path <- file.path(tempdir(), "td3")
dir.create(o_path)
import_D300(td3$d300, td3$Gnum, o_path)
list.files(o_path)
unlink(o_path, recursive = TRUE)
```

is_readable_v	<i>is_readable_v</i> Check if all paths in vector are readable
---------------	--

Description

is_readable_v Check if all paths in vector are readable

Usage

```
is_readable_v(paths)
```

Arguments

paths a character with path(s)

Value

NULL invisibly.

Examples

```
td2 <- get_test_Tecan_data()
is_readable_v(td2$r_files)
```

load_data	<i>Load data</i>
-----------	------------------

Description

This functions loads and checks the data file(s)

Usage

```
load_data(  
  manifest_file,  
  df_template_files,  
  results_file,  
  instrument = "EnVision"  
)
```

Arguments

manifest_file	character, file path(s) to manifest(s)
df_template_files	data.table, with datapaths and names of results file(s) or character with file path of templates file(s)
results_file	data.table, with datapaths and names of results file(s) or character with file path of results file(s)
instrument	character

Value

a list with three data.tables for manifest/treatment and results

Examples

```
td <- get_test_data()  
l_tbl <- load_data(manifest_path(td), template_path(td), result_path(td))
```

load_manifest	<i>Load manifest</i>
---------------	----------------------

Description

This functions loads and checks the manifest file(s)

Usage

```
load_manifest(manifest_file)
```

Arguments

manifest_file character, file path(s) to manifest(s)

Value

list with manifest data.table and headers

Examples

```
td <- get_test_data()
ml <- load_manifest(manifest_path(td))
```

load_results

Load results

Description

This functions loads and checks the results file(s)

Usage

```
load_results(
  df_results_files,
  instrument = "EnVision",
  headers = gDRutils::get_env_identifiers()
)
```

Arguments

df_results_files data.table, with datapaths and names of results file(s) or character with file path of results file(s)

instrument character

headers list of headers identified in the manifest file

Value

data.table with results' data

Examples

```
td <- get_test_data()
r_df <- load_results(result_path(td))
```

load_results_EnVision *Load EnVision results from xlsx*

Description

This functions loads and checks the results file(s)

Usage

```
load_results_EnVision(results_file, headers = gDRutils::get_env_identifiers())
```

Arguments

results_file character vector containing file path(s) to results file(s)
headers list of headers identified in the manifest

Value

data.table with results data

load_results_Tecan *Load tecan results from xlsx*

Description

This functions loads and checks the results file

Usage

```
load_results_Tecan(results_file, headers = gDRutils::get_env_identifiers())
```

Arguments

results_file string, file path to a result file
headers list of headers identified in the manifest

Value

data.table derived from Tecan data

load_results_tsv *Load results from tsv*

Description

This functions loads and checks the results file(s)

Usage

```
load_results_tsv(results_file, headers)
```

Arguments

results_file character, file path(s) to template(s)
headers list of headers identified in the manifest

Value

data.table with results data

load_templates *Load templates*

Description

This functions loads and checks the template file(s)

Usage

```
load_templates(df_template_files)
```

Arguments

df_template_files
 data.table, with datapaths and names of results file(s) or character with file path
 of templates file(s)

Value

data.table with templates data

Examples

```
td <- get_test_data()  
t_df <- load_templates(template_path(td))
```

load_templates_tsv	<i>Load templates from tsv</i>
--------------------	--------------------------------

Description

This functions loads and checks the template file(s)

Usage

```
load_templates_tsv(template_file, template_filename = NULL)
```

Arguments

template_file character, file path(s) to template(s)
template_filename
character, file name(s)

Value

data.table with template data

load_templates_xlsx	<i>Load templates from xlsx</i>
---------------------	---------------------------------

Description

This functions loads and checks the template file(s)

Usage

```
load_templates_xlsx(template_file, template_filename = NULL)
```

Arguments

template_file character, file path(s) to template(s)
template_filename
character, file name(s)

Value

data.table with templates data

manifest_path	<i>Method manifest_path</i>
---------------	-----------------------------

Description

Method for object `gdr_test_data` - access to slot `manifest_path`

Usage

```
manifest_path(x)

## S4 method for signature 'gdr_test_data'
manifest_path(x)
```

Arguments

`x` object class `gdr_test_data`

Value

value of slot `manifest_path`

Examples

```
td <- get_test_data()
manifest_file_path <- manifest_path(td)
```

mgrepl	<i>grep wrapper to support multiple patterns</i>
--------	--

Description

grep wrapper to support multiple patterns

Usage

```
mgrepl(patterns, x, do_unlist = TRUE, ...)
```

Arguments

<code>patterns</code>	charvec with patterns to be checked
<code>x</code>	charvec with data
<code>do_unlist</code>	logical_flag unlist the final results?
<code>...</code>	additional argument

Value

list of charvec with grep output

parse_D300_xml	<i>Parse D300</i>
----------------	-------------------

Description

This function parses a D300 *.tdd file (XML format) into a data.table

Usage

```
parse_D300_xml(D300_file)
```

Arguments

D300_file string, file path to D300 .tdd file

Value

data.table representing input D300_file.

Examples

```
td3 <- get_test_D300_data()
fs <- td3[["f_96w"]]
dose_df <- parse_D300_xml(fs[["d300"]])
```

read_EnVision_delim	<i>Read EnVision delimited text files</i>
---------------------	---

Description

This function reads file from the EnVision Workstation

Usage

```
read_EnVision_delim(file, nrows = 10000, seps = c(", ", "\t"))
```

Arguments

file string to path of input file from EnVision scanner
nrows maximum number of file rows to be processed
seps potential field separators of the input file

Value

a list containing the data table, n_col, n_row, and if is edited

read_EnVision_xlsx	<i>Read in single xlsx data from EnVision</i>
--------------------	---

Description

Read in single xlsx data from EnVision

Usage

```
read_EnVision_xlsx(results_file, results_sheet)
```

Arguments

results_file character, file path(s) to results file(s)
results_sheet results sheet names

Value

data.table with results data

read_excel_to_dt	<i>Read excel file and transform it into data.table object</i>
------------------	--

Description

Read excel file and transform it into data.table object

Usage

```
read_excel_to_dt(path, ...)
```

Arguments

path path to excel file
... other arguments that should be passed into readxl::read_excel

Value

data.table object with read excel file

Examples

```
datasets <- readxl::readxl_example("datasets.xlsx")  
read_excel_to_dt(datasets)
```

read_in_EnVision_file *Read EnVision file*

Description

This function reads file from the EnVision Workstation

Usage

```
read_in_EnVision_file(file, nrows, seps)
```

Arguments

file	input file from EnVision
nrows	maximum number of file rows to be processed
seps	potential field separators of the input file

Value

list with one element per EnVisoin input file

read_in_manifest_file *read manifest files*

Description

read manifest files

Usage

```
read_in_manifest_file(manifest_file, available_formats)
```

Arguments

manifest_file	character, file path(s) to manifest(s)
available_formats	charvec with available file formats

Value

a data.table with manifest data

read_in_results_Tecan *read in Tecan data*

Description

read in Tecan data

Usage

```
read_in_results_Tecan(results_file, results_sheets, headers)
```

Arguments

results_file string, file path to a result file
results_sheets template sheet names
headers list of headers identified in the manifest

Value

data.table derived from Tecan data

read_in_result_files *Read in results files*

Description

Read in results files

Usage

```
read_in_result_files(results_file, results_filename, headers)
```

Arguments

results_file data.table, with datapaths and names of results file(s) or character with file path of results file(s)
results_filename character with file names
headers list of headers identified in the result files

Value

data.table with results data

read_in_template_sheet_xlsx
Read in data from xlsx template sheet

Description

Read in data from xlsx template sheet

Usage

```
read_in_template_sheet_xlsx(template_file, template_sheets, idx, plate_info)
```

Arguments

template_file	character, file path(s) to template(s)
template_sheets	template sheet names
idx	template file index
plate_info	list with plate info

Value

data.table with template data

read_in_template_xlsx *Read in xlsx template files*

Description

Read in xlsx template files

Usage

```
read_in_template_xlsx(template_file, template_filename, template_sheets)
```

Arguments

template_file	character, file path(s) to template(s)
template_filename	character, file name(s)
template_sheets	template sheet names

Value

data.table with templates data

read_in_tsv_template_files
read in tsv template files

Description

read in tsv template files

Usage

```
read_in_tsv_template_files(template_file, template_filename, templates)
```

Arguments

template_file character, file path(s) to template(s)
template_filename character, file name(s)
templates list with templates data

Value

data.table with templates dataa

read_ref_data *read_ref_data*

Description

Read reference data

Usage

```
read_ref_data(inDir, prefix = "ref")
```

Arguments

inDir a directory path of reference data
prefix a prefix of reference file names ('ref' by default)

Value

a list of reference data

result_path	<i>Method result_path</i>
-------------	---------------------------

Description

Method for object gdr_test_data - access to slot result_path

Usage

```
result_path(x)

## S4 method for signature 'gdr_test_data'
result_path(x)
```

Arguments

x object class gdr_test_data

Value

value of slot result_path

Examples

```
td <- get_test_data()
result_file_path <- result_path(td)
```

```
save_drug_info_per_well
for each drug create a Gnumber and Concentration information for
each well
```

Description

for each drug create a Gnumber and Concentration information for each well

Usage

```
save_drug_info_per_well(trt_info, trt_gnumber_conc, wb, idfs)
```

Arguments

trt_info	list with treatment info
trt_gnumber_conc	list with treatment data
wb	pointer to xlsx workbook
idfs	charvec with identifiers

Value

NULL invisibly.

setEnvForPSet	<i>Adjust environment variables to meet gDR standards</i>
---------------	---

Description

Adjust environment variables to meet gDR standards

Usage

```
setEnvForPSet()
```

Value

NULL

Examples

```
setEnvForPSet()
gDRutils::reset_env_identifiers()
```

standardize_record_values	<i>standardize_record_values</i>
---------------------------	----------------------------------

Description

map values to a dictionary

Usage

```
standardize_record_values(x, dictionary = DICTIONARY)
```

Arguments

x	a named array
dictionary	a named array

Value

a named array with updated names

Examples

```
standardize_record_values(c("Vehicle", "vehcle"))
```

template_path	<i>Method template_path</i>
---------------	-----------------------------

Description

Method for object gdr_test_data - access to slot template_path

Usage

```
template_path(x)

## S4 method for signature 'gdr_test_data'
template_path(x)
```

Arguments

x object class gdr_test_data

Value

value of slot template_path

Examples

```
td <- get_test_data()
template_file_path <- template_path(td)
```

validate_template_xlsx	<i>Validate template xlsx data</i>
------------------------	------------------------------------

Description

Validate template xlsx data

Usage

```
validate_template_xlsx(template_file, template_filename, template_sheets, idx)
```

Arguments

template_file	character, file path(s) to template(s)
template_filename	character, file name(s)
template_sheets	template sheet names
idx	template file index

Value

NULL invisibly.

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