

Package ‘synapterdata’

October 16, 2021

Type Package

Title Data accompanying the synapter package

Version 1.30.0

Author Laurent Gatto, Sebastian Gibb and Pavel V. Shliaha

Maintainer Laurent Gatto <lg390@cam.ac.uk>

Description Data independant acquisition of UPS1 protein mix in an E. coli background obtained on a Waters Synapt G2 instrument.

Depends R (>= 2.10), synapter (>= 1.99.2)

Imports utils

License GPL-2

biocViews ExperimentData, MassSpectrometryData

git_url <https://git.bioconductor.org/packages/synapterdata>

git_branch RELEASE_3_13

git_last_commit 6d83b4a

git_last_commit_date 2021-05-19

Date/Publication 2021-10-16

R topics documented:

synapterdata-package	2
getHDMSeFinalPeptide	2
getMaster	3
synobj2	4
ups25a	4
Index	6

synapterdata-package *Data accompanying the synapter package*

Description

Data independant acquisition of UPS1 protein mix in an *E. coli* background obtained on a Waters Synapt G2 instrument.

Details

See the synapter package for details.

Index:

getHDMSeFinalPeptide	PLGS csv data and fasta files
getMaster	Get _master_ HDMSse data
ups25a	'Synapter' spiked-in example data.

Author(s)

Laurent Gatto and Pavel V. Shliaha

Maintainer: Laurent Gatto <lg390@cam.ac.uk>

References

Shliaha P.V., Gatto L., Bond N.J. and Lilley K.S. Synapter: Improving qualitative and quantitative performance for label free proteomics, in prep.

Shliaha, P.V., Bond N.J., Gatto L. and Lilley K.S. The Effects of Ion Mobility Separation on Data Independent Acquisition in Proteomics Studies., in prep.

getHDMSeFinalPeptide *PLGS csv data and fasta files*

Description

The PLGS HDMSse final peptide, MSe final peptide and MSe Pep3D output files are provided as gzipped csv files and their repective full paths can be obtained with getHDMSeFinalPeptide, getMSeFinalPeptide and getMSePep3D. These can then be used directly in the respective synpater functions and methods, as read.csv automatically uncompressed the files.

The fasta database file is also available in as a gunzip archive. Fasta file are however not automatically handled in gzipped format. getFasta first decompresses the file in a temporary directory and returns the full path to that uncompressed file.

Usage

```
getHDMSeFinalPeptide()  
getMSeFinalPeptide()  
getMSePep3D()  
getFasta()
```

Examples

```
getHDMSeFinalPeptide()
```

getMaster

Get master HDMSe data

Description

TODO A concise (1-5 lines) description of what the function does.

Usage

```
getMaster()  
loadMaster()
```

Details

TODO If necessary, more details than the description above

Author(s)

Laurent Gatto <lg390@cam.ac.uk>

References

Bond N. J., Shliaha P.V., Gatto L. and Lilley K.S., in prep.

See the synapter vignette from the synapter package, available with `ysnapterGuide()` for a description of the underlying concepts and detailed description of the pipeline.

See Also

[ups25a](#) and [getHDMSeFinalPeptide](#)

Examples

```
loadMaster()  
master
```

`synobj2`*Example Synapter object*

Description

An instance of class `Synapter` used to demonstrate ion mobility separation and peak matching in the respective `synapter` vignettes. The object can be created using the files available at <http://proteome.sysbiol.cam.ac.uk/lgatto/synapter/data/> and the script `create_synobj2.R` in `system.file("scripts", package = "synapterdata")`.

Use `synobj2RData` to load it.

Usage

```
data(synobj2)
synobj2RData()
```

Format

An instance of class `Synapter`.

Examples

```
synobj2RData()
synobj2
```

`ups25a`*Synapter spiked-in example data.*

Description

Objects of class `Synapter`, implented in the `synapter` package. The 6 instances represent triplicate run of the Universal Proteomics Standard (UPS1) 48 protein mix in an *E. coli* background, spiked in at 25 and 50 femtomoles.

Usage

```
data(ups25c)
```

Details

Each instance has been created with the `synergise` function. The respective MSe final peptide and MSe Pep3D final are also provided in the package (see `getMSeFinalPeptide` and `getMSePep3D`). The identification peptides is a master HDMSe file (see `getMaster`). The code generating the instances is available in the `synergise.R` file, in the `scripts` package directory.

Source

Bond N. J., Shliaha P.V., Gatto L. and Lilley K.S., in prep.

References

See the `synapter` vignette from the `synapter` package, available with `ysnapterGuide()` for a description of the underlying concepts and detailed description of the pipeline.

Examples

```
library(synapter)
data(ups25a)
performance(ups25a)
```

Index

* datasets

getHDMSeFinalPeptide, 2

synobj2, 4

ups25a, 4

* package

synapterdata-package, 2

getFasta (getHDMSeFinalPeptide), 2

getHDMSeFinalPeptide, 2, 3

getMaster, 3, 4

getMSeFinalPeptide, 4

getMSeFinalPeptide

(getHDMSeFinalPeptide), 2

getMSePep3D, 4

getMSePep3D (getHDMSeFinalPeptide), 2

loadMaster (getMaster), 3

synapterdata (synapterdata-package), 2

synapterdata-package, 2

synobj2, 4

synobj2RData (synobj2), 4

ups25a, 3, 4

ups25b (ups25a), 4

ups25c (ups25a), 4

ups50a (ups25a), 4

ups50b (ups25a), 4

ups50c (ups25a), 4