

Package ‘CardinalWorkflows’

June 12, 2025

Type Package

Title Datasets and workflows for the Cardinal MSI

Version 1.41.0

Date 2015-1-12

Author Kylie A. Bemis <k.bemis@northeastern.edu>

Maintainer Kylie A. Bemis <k.bemis@northeastern.edu>

Description Datasets and workflows for Cardinal:
DESI and MALDI examples including pig fetus,
cardinal painting, and human RCC.

License Artistic-2.0

Depends R (>= 2.10), Cardinal, methods

Suggests BiocStyle, knitr, rmarkdown

VignetteBuilder knitr

biocViews ExperimentData, MassSpectrometryData,
ImagingMassSpectrometryData

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

git_branch devel

git_last_commit 5a49b21

git_last_commit_date 2025-04-15

Repository Bioconductor 3.22

Date/Publication 2025-06-12

Contents

CardinalWorkflows-package	2
cardinal-data	2
pig206-data	3
rcc-data	3
Index	4

CardinalWorkflows-package

Datasets and workflows for the Cardinal mass spectrometry imaging package

Description

Datasets and workflows for Cardinal: MS imaging data examples including cardinal painting, pig fetus, and human RCC.

Usage

```
# Load and return an example MSI dataset
exampleMSIData(name = c("cardinal", "pig206", "rcc"))
```

Arguments

name The name of the dataset.

Details

CardinalWorkflows provides datasets and example workflows of mass spectrometry imaging experiments using the Cardinal package for MS imaging analysis.

To view the example workflows, use `browseVignettes("CardinalWorkflows")`.

Value

The dataset as an `MSImagingExperiment`.

Author(s)

Kylie A. Bemis

See Also

[cardinal](#), [pig206](#), [rcc](#)

cardinal-data

Cardinal Painting

Description

DESI-imaging mass spectra collected from the oil painting of a cardinal. Should be loaded with `exampleMSIData()`.

Source

Aston Labs (Livia S. Eberlin, Christina Ferreira, and R. Graham Cooks).

Examples

```
cardinal <- exampleMSIData("cardinal")  
cardinal
```

pig206-data*Cross-Section of a Whole Pig Fetus*

Description

DESI-imaging mass spectra collected from the cross-section of a whole pig fetus. Should be loaded with `exampleMSIData()`.

Source

Aston Labs (Livia S. Eberlin, Christina Ferreira, and R. Graham Cooks).

Examples

```
pig206 <- exampleMSIData("pig206")  
pig206
```

rcc-data*Human Renal Cell Carcinoma*

Description

Eight matched pairs of human renal cell carcinoma (RCC) labeled as cancer or normal.

Data are DESI-imaging mass spectra with each matched pair as a separate sample on a separate slide.

Should be loaded with `exampleMSIData()`.

Source

Aston Labs (Livia S. Eberlin and R. Graham Cooks).

References

Dill, A. L., Eberlin, L. S., Zheng, C., Costa, A. B., Ifa, D. R., Cheng, L., et al. (2010). Multivariate statistical differentiation of renal cell carcinomas based on lipidomic analysis by ambient ionization imaging mass spectrometry. *Analytical and Bioanalytical Chemistry*, 298(7-8), 2969-2978.

Dill, A. L., Eberlin, L. S., Zheng, C., Costa, A. B., Ifa, D. R., Cheng, L., et al. (2010). Multivariate Statistical Identification of Human Bladder Carcinomas Using Ambient Ionization Imaging Mass Spectrometry. *Chemistry - a European Journal*, 17(10), 2897-2902.

Examples

```
rcc <- exampleMSIData("rcc")  
rcc
```

Index

- * **datasets**
 - cardinal-data, [2](#)
 - pig206-data, [3](#)
 - rcc-data, [3](#)
- * **package**
 - CardinalWorkflows-package, [2](#)
- cardinal, [2](#)
- cardinal (cardinal-data), [2](#)
- cardinal-data, [2](#)
- CardinalWorkflows
 - (CardinalWorkflows-package), [2](#)
- CardinalWorkflows-package, [2](#)
- data:cardinal (cardinal-data), [2](#)
- data:pig206 (pig206-data), [3](#)
- data:rcc (rcc-data), [3](#)
- exampleMSIData
 - (CardinalWorkflows-package), [2](#)
- pig206, [2](#)
- pig206 (pig206-data), [3](#)
- pig206-data, [3](#)
- rcc, [2](#)
- rcc (rcc-data), [3](#)
- rcc-data, [3](#)