

# Package: grover (via r-universe)

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**Title** Web API Framework for Mass Spectrometry Data Transfer

**Version** 1.1.3

**Description** A web based API framework for hosting and interfacing a mass spectrometry raw data data repository. Transfer files, retrieve file information, convert raw mass spectromery data to .mzML format and retrieve sample information from .raw file headers.

**biocViews** MassSpectrometry, Metabolomics

**URL** <https://jasenfinch.github.io/grover/>

**BugReports** <https://github.com/jasenfinch/grover/issues>

**License** GPL-3

**Encoding** UTF-8

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conversionArgsPeakPick

*Conversion arguments*

---

### Description

Helper functions for msconvert arguments for raw data conversion.

### Usage

conversionArgsPeakPick()

conversionArgsNegativeMode()

conversionArgsPositiveMode()

conversionArgsMSlevel1()

conversionArgsMSlevel2()

conversionArgsMSlevel3()

### Details

These functions return character strings suitable for supplying to the args argument of convertFile for passing to msconvert.

**Examples**

```
conversionArgsPeakPick()
```

---

|             |   |
|-------------|---|
| convertFile | <i>Convert raw files to mzML format</i> |
|-------------|---|

---

**Description**

Convert a raw MS file using a grover API.

**Usage**

```
convertFile(  
  grover_client,  
  instrument,  
  directory,  
  file,  
  args = "",  
  outDir = ".",  
  zip = TRUE,  
  overwrite = FALSE  
)
```

```
convertDirectory(  
  grover_client,  
  instrument,  
  directory,  
  args = "",  
  outDir = ".",  
  zip = TRUE,  
  overwrite = FALSE,  
  exclude = character()  
)
```

```
convertDirectorySplitModes(  
  grover_client,  
  instrument,  
  directory,  
  args = "",  
  outDir = ".",  
  zip = TRUE  
)
```

```
## S4 method for signature 'GroverClient'  
convertFile(  
  grover_client,
```

```
    instrument,
    directory,
    file,
    args = NULL,
    outDir = ".",
    zip = TRUE,
    overwrite = FALSE
)

## S4 method for signature 'GroverClient'
convertDirectory(
  grover_client,
  instrument,
  directory,
  args = "",
  outDir = ".",
  zip = TRUE,
  overwrite = FALSE,
  exclude = character()
)

## S4 method for signature 'GroverClient'
convertDirectorySplitModes(
  grover_client,
  instrument,
  directory,
  args = "",
  outDir = ".",
  zip = TRUE
)
```

### Arguments

|               |  |
|---------------|--|
| grover_client | S4 object of class GroverClient  |
| instrument    | instrument name  |
| directory     | directory name   |
| file          | file name  |
| args          | arguments to pass to msconvertR::convert_files   |
| outDir        | output directory path for converted files  |
| zip           | zip converted file   |
| overwrite     | overwrite local mzML files that already exist at the outDir path that have the same file name as the raw files to be converted |
| exclude       | A character vector of regular expression patterns for which raw files with matching patterns will not be converted.            |

**Value**

A vector of file paths to converted data files.

---

|        |  |
|--------|--|
| extant | <i>Check the existance of a grover API</i> |
|--------|--|

---

**Description**

Check grover API is still extistant.

**Usage**

```
extant(grover_client)
```

```
## S4 method for signature 'GroverClient'
extant(grover_client)
```

**Arguments**

grover\_client S4 object of class GroverGlient

**Value**

TRUE if the API host is accessible and FALSE if not.

---

|          |                                  |
|----------|----------------------------------|
| fileInfo | <i>Retrieve file information</i> |
|----------|----------------------------------|

---

**Description**

Return file information for a given file using the grover API.

**Usage**

```
fileInfo(grover_client, instrument, directory, file)
```

```
directoryFileInfo(grover_client, instrument, directory)
```

```
instrumentFileInfo(grover_client, instrument)
```

```
repositoryFileInfo(grover_client)
```

```
## S4 method for signature 'GroverClient'
fileInfo(grover_client, instrument, directory, file)
```



---

groverAPI

*Grover API*

---

### Description

Run the grover REST API for file conversion.

### Usage

```
groverAPI(  
  grover_host,  
  background = FALSE,  
  log_dir = "~/grover/logs",  
  temp_dir = tempdir()  
)
```

### Arguments

|             |   |
|-------------|---|
| grover_host | S4 object of class Grover               |
| background  | Run as a background process.            |
| log_dir     | directory path for API logs             |
| temp_dir    | temporary directory for converted files |

### Examples

```
## Not run:  
grover_host <- grover(host = "127.0.0.1",  
                    port = 8000,  
                    auth = "1234",  
                    repository = system.file('repository',  
                                             package = 'grover'))  
  
groverAPI(grover_host)  
  
## End(Not run)
```

---

GroverClient-class

*GroverClient class*

---

### Description

A simple S4 class containing grover API host information for client-side use.

### Slots

|      |                                 |
|------|---------------------------------|
| host | host address                    |
| port | port on which the API is hosted |
| auth | authentication key              |

---

GroverHost-class      *GroverHost class*

---

### Description

A simple S4 class containing host information for configuring a grover API.

### Details

This class inherits from the GroverClient class so GroverClient accessor methods are applicable.

### Slots

host host address

port port on which the API is hosted

auth authentication key

repository directory path to the raw mass spectrometry data repository

---

host      *GroverClient get and set methods*

---

### Description

Retrieve or set host information for a GroverClient objects.

### Usage

```
host(grover_client)
```

```
host(grover_client) <- value
```

```
port(grover_client)
```

```
port(grover_client) <- value
```

```
auth(grover_client)
```

```
auth(grover_client) <- value
```

```
## S4 method for signature 'GroverClient'
```

```
host(grover_client)
```

```
## S4 replacement method for signature 'GroverClient'
```

```
host(grover_client) <- value
```

```
## S4 method for signature 'GroverClient'
port(grover_client)

## S4 replacement method for signature 'GroverClient'
port(grover_client) <- value

## S4 method for signature 'GroverClient'
auth(grover_client)

## S4 replacement method for signature 'GroverClient'
auth(grover_client) <- value
```

### Arguments

grover\_client    S4 object of class GroverClient  
value            new host value to set

---

|                 |  |
|-----------------|--|
| listInstruments | <i>List raw data repository contents</i> |
|-----------------|--|

---

### Description

List available instruments, experiment directories or samples using a grover API.

### Usage

```
listInstruments(grover_client)

listDirectories(grover_client, instrument)

listFiles(grover_client, instrument, directory)

listRawFiles(grover_client, instrument, directory)

## S4 method for signature 'GroverClient'
listInstruments(grover_client)

## S4 method for signature 'GroverClient'
listDirectories(grover_client, instrument)

## S4 method for signature 'GroverClient'
listFiles(grover_client, instrument, directory)

## S4 method for signature 'GroverClient'
listRawFiles(grover_client, instrument, directory)
```

**Arguments**

grover\_client S4 object of class GroverClient  
instrument instrument name  
directory directory name

---

readGrover *Parse a grover configuration file*

---

**Description**

Read grover API host information from a text file.

**Usage**

```
readGrover(path = "grover.yml")
```

**Arguments**

path file path to text file containing host information

**Details**

The text file should contain 3 lines, the first the host address, the second the port on which it is hosted and lastly the authentication key needed

**Examples**

```
## Grover client  
grover_client <- system.file('grover_client.yml',  
                             package = 'grover')  
grover_client <- readGrover(grover_client)  
  
## Grover host  
grover_host <- system.file('grover_host.yml',  
                            package = 'grover')  
grover_host <- readGrover(grover_host)
```

---

|            |                                       |
|------------|---------------------------------------|
| repository | <i>GroverHost get and set methods</i> |
|------------|---------------------------------------|

---

**Description**

Retrieve or set host information for GroverHost objects.

**Usage**

```
repository(grover_host)

repository(grover_host) <- value

## S4 method for signature 'GroverHost'
repository(grover_host)

## S4 replacement method for signature 'GroverHost'
repository(grover_host) <- value
```

**Arguments**

|             |                               |
|-------------|-------------------------------|
| grover_host | S4 object of class GroverHost |
| value       | new host value to set         |

---

|            |  |
|------------|--|
| sampleInfo | <i>Retrieve sample raw file header information</i> |
|------------|--|

---

**Description**

Get sample header information for a given raw file or directory using a grover API.

**Usage**

```
sampleInfo(grover_client, instrument, directory, file)

runInfo(grover_client, instrument, directory, exclude = character())

## S4 method for signature 'GroverClient'
sampleInfo(grover_client, instrument, directory, file)

## S4 method for signature 'GroverClient'
runInfo(grover_client, instrument, directory, exclude = character())
```

**Arguments**

|               |   |
|---------------|---|
| grover_client | S4 object of class GroverClient   |
| instrument    | instrument name   |
| directory     | directory name  |
| file          | file name   |
| exclude       | A character vector of regular expression patterns for which the information matching files will not be retrieved. |

---

show, GroverClient-method

*Grover class show methods*

---

**Description**

Show method for class S4 Grover.

**Usage**

```
## S4 method for signature 'GroverClient'
show(object)
```

```
## S4 method for signature 'GroverHost'
show(object)
```

**Arguments**

|        |                           |
|--------|---------------------------|
| object | S4 object of class Grover |
|--------|---------------------------|

---

transferFile

*Transfer files*

---

**Description**

Transfer a file or directory using a grover API.

**Usage**

```
transferFile(grover_client, instrument, directory, file, outDir = ".")
```

```
transferDirectory(grover_client, instrument, directory, outDir = ".")
```

```
## S4 method for signature 'GroverClient'
transferFile(grover_client, instrument, directory, file, outDir = ".")
```

```
## S4 method for signature 'GroverClient'
transferDirectory(grover_client, instrument, directory, outDir = ".")
```

**Arguments**

|               |  |
|---------------|--|
| grover_client | S4 object of class GroverClient            |
| instrument    | instrument name                            |
| directory     | directory name                             |
| file          | file name                                  |
| outDir        | output directory path for transferred file |

---

|         |   |
|---------|---|
| version | <i>Return the version of a grover API</i> |
|---------|---|

---

**Description**

Return the version number of a grover API.

**Usage**

```
version(grover_client)
```

```
## S4 method for signature 'GroverClient'  
version(grover_client)
```

**Arguments**

|               |                                 |
|---------------|---------------------------------|
| grover_client | S4 object of class GroverClient |
|---------------|---------------------------------|

**Value**

The version number of the grover API.

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