

# Package ‘flaskcycle’

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**Type** Package

**Title** Control and tracking of flasks for atmospheric sampling of greenhouse gases

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**Description** This package contains a set of functions to track flasks sampled with an ICOS automated flasks sampler, their location, and laboratory submissions.

**License** MIT

**Encoding** UTF-8

**Imports** csvy, yaml

**RoxygenNote** 7.3.2.9000

**NeedsCompilation** no

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checkBox	<i>Check if flasks in a box have been recorded as sampled from the autosampler</i>
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### Description

Check if flasks in a box have been recorded as sampled from the autosampler

### Usage

```
checkBox(samplerBoxData, controlFile)
```

### Arguments

samplerBoxData	A data.frame of sampled boxes produced as a report from the autosampler and loaded using the function selectBox
controlFile	a list with control file data produced by load_cf

### Value

a vector with the position of the flasks that match the sampler box data.

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getBox	<i>Get box data and metadata from control file</i>
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### Description

Get box data and metadata from control file

### Usage

```
getBox(cf, box)
```

### Arguments

cf	control file as list. This is produced by function load_cf
box	character string with the ID of the box to extract

### Value

a list with data and metadata for a single box

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getSampledBox	<i>Get information of a sampled box from a report from the autosampler</i>
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**Description**

Get information of a sampled box from a report from the autosampler

**Usage**

```
getSampledBox(  
  file,  
  box,  
  selvars = c("sampleID", "flaskID", "batchID", "boxID", "startTime", "endTime",  
              "flaskPort", "flaskInsertTime", "mountPressure", "samplePressure")  
)
```

**Arguments**

file	a character string with the location of the csv file containing information from the autosampler. Usually a result to a call to the function sampledBoxes
box	character string with the Box ID
selvars	character vector of variables to select from original file

**Value**

a data.frame with information on flasks sampled for the particular box

**Examples**

```
## Not run:  
getSampledBox(file="FlaskCycle/packedBoxes/sampledBoxes.csv", box="B0171")  
  
## End(Not run)
```

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load_cf	<i>Load control file, data and metadata</i>
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**Description**

Load control file, data and metadata

**Usage**

```
load_cf(cf)
```

**Arguments**

cf	character string to the path to the control file. Usually a .csv file with a yaml metadata header.
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**Value**

list with a data.frame with data, and a list with metadata information

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plotBox

*Plots the box with the containing flasks*

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**Description**

Plots the box with the containing flasks

**Usage**

```
plotBox(box_list)
```

**Arguments**

box\_list            a list with data and metadata for a box

**Value**

a plot

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sampledBoxes

*Collect all information from the report produced by the autosampler about packed boxes and prints a report*

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**Description**

Collect all information from the report produced by the autosampler about packed boxes and prints a report

**Usage**

```
sampledBoxes(  
  fromWhere = "~/Repos/ATTO_flask_sampling/FlaskCycle/packedBoxes",  
  toWhere = fromWhere  
)
```

**Arguments**

fromWhere            a character string with the path with the reports are stored.  
toWhere              a character string with the path to store the report.

**Value**

a csv file with the data of all sampled boxes

**Examples**

```
sampledBoxes()
```

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selectBox	<i>Selects data for a single box from all sampled boxes</i>
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**Description**

Selects data for a single box from all sampled boxes

**Usage**

```
selectBox(box, year = NULL, sampledBoxes)
```

**Arguments**

- box                      character string with box ID
- year                     integer with the year of sampling
- sampledBoxes          character string with the path of the report of all sampled boxes

**Value**

sampling report for one selected box

**Examples**

```
selectBox(box="B0171", year=2023, sampledBoxes = "~/Repos/ATTO_flask_sampling/FlaskCycle/packedBoxes/sampledBoxes.csv")
selectBox(box="B0171", sampledBoxes = "~/Repos/ATTO_flask_sampling/FlaskCycle/packedBoxes/sampledBoxes.csv")
```

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submissionInfo	<i>Extracts required information for submitting sampled flasks to a laboratory</i>
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**Description**

Extracts required information for submitting sampled flasks to a laboratory

**Usage**

```
submissionInfo(
  box,
  file = "~/Repos/ATTO_flask_sampling/FlaskCycle/SubmissionFiles/Aug2024.csv"
)
```

**Arguments**

- box                      data.frame with the sampler report for a specific box ID
- file                     character string with the path and file name to write output

**Value**

writes a csv file at the specified path

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`unzipBox`*Unzip files containing reports of sampled flasks from autosampler*

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**Description**

Unzip files containing reports of sampled flasks from autosampler

**Usage**

```
unzipBox(year, path)
```

**Arguments**

<code>year</code>	character vector of years of data to unzip
<code>path</code>	character string with the path where zip files are stored

**Value**

a file containing all data from a box report

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