aop2db Documentation

Release 0.3.1

Bruce Schultz

Sep 08, 2022

CONTENTS:

1 AOP2DB **1**

2 Installation **3**

3 Usage **5**

4 Disclaimer **7**
- 4.1 Installation 7
- 4.2 Query Methods 8

5 Indices and tables **13**

Python Module Index **15**

Index **17**

CHAPTER

ONE

AOP2DB

Package for compiling the adverse outcome pathway (AOP) data into a relational database. The data is publicly available at the AOP website.

CHAPTER

TWO

INSTALLATION

aop2db can be directly installed from PyPi with pip:

```
$ pip install aop2db
```

CHAPTER

THREE

USAGE

To load the data into a relational database:

```
$ aop2db load
```

To set the driver of your database:

```
$ aop2db conn mysql+pymysql://<user>:<password>@<server>/<database>
```

CHAPTER

FOUR

DISCLAIMER

AOP2DB is a scientific software that has been developed in an academic capacity, and thus comes with no warranty or guarantee of maintenance, support, or back-up of data.

4.1 Installation

4.1.1 Stable release

To install aop2db, run this command in your terminal:

```
$ pip install aop2db
```

This is the preferred method to install aop2db, as it will always install the most recent stable release.

If you don't have pip installed, this Python installation guide can guide you through the process.

4.1.2 From sources

The sources for aop2db can be downloaded from the Github repo.

You can either clone the public repository:

```
$ git clone git://github.com/brucetony/aop2db
```

Or download the tarball:

```
$ curl -OJL https://github.com/brucetony/aop2db/tarball/master
```

Once you have a copy of the source, you can install it with:

```
$ python setup.py install
```

4.2 Query Methods

Query the AOP tables.

aop2db.aop.query.**get_aops**(*verbose=False*)

Get AOP rows.

NOTE: AOP has no links to Taxonomy.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_bio_actions**(*verbose=False*)

Get table of biological actions.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_bio_events**(*verbose=False*)

Get Biological Events rows with KeyEvent foreign key.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_bio_objects**(*verbose=False*)

Get table of biological objects.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_bio_processes**(*verbose=False*)

Get table of biological processes.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_cell_terms**(*verbose=False*)

Get table of cell terms.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_chemicals**(*synonyms=False*, *verbose=False*)

Get table of chemicals.

Parameters

- **synonyms** (*bool*) – If True, expands the DataFrame to include synonyms for each chemical.
- **verbose** (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_key_event_relationships**(*species=None*, *verbose=False*)

Get a table of Key Event Relationships.

Parameters

- **species** (*int*) – The taxonomic ID of a species. Restricts the output to only that species e.g. 9606 for humans.
- **verbose** (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_key_events**(*bio_events=False*, *stressors=False*, *detailed=False*, *species=None*, *verbose=False*)

Get table of key events.

Parameters

- **bio_events** (*bool*) – If True, produces a detailed DataFrame with extra information on joined bio events.
- **stressors** (*bool*) – If True, produces a detailed DataFrame with extra information on joined stressors.
- **detailed** (*bool*) – If True, produces a detailed DataFrame with the table IDs for AOPs, stressors, and bio events..
- **species** (*int*) – The taxonomic ID of a species. Restricts the output to only that species e.g. 9606 for humans.

- **verbose** (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_life_stages**(*verbose=False*)

Get table of life stages.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_organ_terms**(*verbose=False*)

Get table of organ terms.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_sexes**(*verbose=False*)

Get table of life stages.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_stressors**(*verbose=False*)

Get table of stressors.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
DataFrame

aop2db.aop.query.**get_taxonomies**(*verbose=False*)

Get table of taxonomies.

Parameters
verbose (*bool*) – If True, prints the SQL statement used to query the database.

Return type
pandas DataFrame

Return type
`DataFrame`

CHAPTER

FIVE

INDICES AND TABLES

- genindex

PYTHON MODULE INDEX

a
aop2db.aop.query, 8

INDEX

A

aop2db.aop.query
    module, 8

G

get_aops() (*in module aop2db.aop.query*), 8
get_bio_actions() (*in module aop2db.aop.query*), 8
get_bio_events() (*in module aop2db.aop.query*), 8
get_bio_objects() (*in module aop2db.aop.query*), 8
get_bio_processes() (*in module aop2db.aop.query*), 8
get_cell_terms() (*in module aop2db.aop.query*), 9
get_chemicals() (*in module aop2db.aop.query*), 9
get_key_event_relationships() (*in module aop2db.aop.query*), 9
get_key_events() (*in module aop2db.aop.query*), 9
get_life_stages() (*in module aop2db.aop.query*), 10
get_organ_terms() (*in module aop2db.aop.query*), 10
get_sexes() (*in module aop2db.aop.query*), 10
get_stressors() (*in module aop2db.aop.query*), 10
get_taxonomies() (*in module aop2db.aop.query*), 10

M

module
    aop2db.aop.query, 8