Package ‘dragon’

October 13, 2022

Title  Deep Time Redox Analysis of the Geobiology Ontology Network

Version  1.2.1


License  MIT + file LICENSE

Imports  config, golem (>= 0.2.1), shiny, DT (>= 0.14), ggplot2 (>= 3.3.5), readr, openxlsx, dplyr (>= 1.0.0), RColorBrewer, stringr, tidyrr, purrr, tibble, broom (>= 0.5.6), cowplot (>= 1.0.0), ggforce, magrittr, shinydashboard, shinyWidgets, colourpicker (>= 1.0), colorspace (>= 1.4), visNetwork (>= 2.0.9), igraph (>= 1.3.0), rlang, htmltools, stats, promises, future, lubridate, xml2, rvest, curl, tidyselect

Encoding  UTF-8

RoxygenNote  7.1.2

Suggests  testthat (>= 2.1.0), processx, knitr, zip, rmarkdown

VignetteBuilder  knitr

URL  https://github.com/sjspielman/dragon

BugReports  https://github.com/sjspielman/dragon/issues

Depends  R (>= 3.5.0)

Collate  'utils_definitions.R' 'utils_globals.R' 'utils_names.R'

'utils_style-network.R' 'utils_ui-choices.R'

'fct_prepare-med-data.R' 'fct_build-legend.R'

'fct_build-linear-models.R' 'fct_build-network.R'

'fct_build-shiny-tables.R' 'fct_calculate-network-info.R'

'fct_export-network.R' 'fct_style-network.R' 'fct_timeline.R'

'mod_choose-color-palette.R'

'mod_choose-custom-element-colors.R' 'app_config.R'

'app_server.R' 'app_ui.R' 'run_app.R'

NeedsCompilation  no
**initialize_network**

Initialize a mineral-chemistry network as stand-alone network rather than for embedding into the Shiny App.

**Description**

Initialize a mineral-chemistry network as stand-alone network rather than for embedding into the Shiny App.

**Usage**

```r
initialize_network(
  elements_of_interest,  
  force_all_elements = FALSE,  
  elements_by_redox = FALSE,  
  restrict_to_elements = FALSE,  
  ignore_na_redox = FALSE,  
  age_range = c(0, 5),  
  max_age_type = "Maximum",  
  cluster_algorithm = "Louvain",  
  cluster_seed = NULL,  
  use_data_cache = TRUE
)
```

**Arguments**

- `elements_of_interest`  
  An array of specified elements whose minerals should be included in the network. For all elements, specify "all".

- `force_all_elements`  
  A logical. If FALSE (default), minerals containing any of `elements_of_interest` will be included in network. If TRUE, only minerals with full intersection of all specified elements will be included in network.
initialize_network

elements_by_redox
   A logical. If FALSE (default), element nodes will be constructed regardless of redox state. If TRUE, creates separate node for each element’s redox state, e.g. Fe2+ and Fe3+ would be separate nodes.

restrict_to_elements
   A logical. If FALSE (default), constructed network will only contain the specified focal element(s)

ignore_na_redox
   A logical. If TRUE and elements_by_redox is TRUE, element nodes without redox states will be removed from the network.

age_range
   A array of two numbers giving inclusive range of mineral ages in Ga to include in network.

max_age_type
   A string indicating how mineral ages should be assessed. If "Maximum" (default), filters minerals using maximum known ages at localities. If "Minimum", filters minerals using minimum known ages at localities.

cluster_algorithm
   A string giving community clustering algorithm, one of "Louvain" (default) or "Leading eigenvector".

cluster_seed
   An integer giving a random seed for reproducible clustering. Default is NULL. "Louvain" (default) or "Leading eigenvector".

use_data_cache
   A logical. If TRUE (default) cached Mineral Evolution Database will be used to build the network. If FALSE, data will be fetched from MED here. CAUTION: Requires internet connection and will take several minutes to update.

Value

Named list containing an igraph-formatted network (‘network’), an igraph::communities object giving node cluster memberships (‘clustering’), a tibble of nodes associated metadata (‘nodes’), and a tibble of edges and associated metadata (‘edges’), and a tibble of mineral locality information (‘locality_info’)

Examples

## Not run:
# Include all Iron minerals whose maximum known age is between 1-2 Gya, and apply
# Louvain community clustering
initialize_network("Fe", age_range = c(1,2))

# Include all minerals containing either Iron and Oxygen whose maximum known age is between 1-2 Gya
initialize_network(c("Fe", "O"), age_range = c(1,2))

# Include all minerals containing both Iron and Oxygen whose maximum known age is between 1-2 Gya
initialize_network(c("Fe", "O"), force_all_elements = TRUE, age_range = c(1,2))

# Build the full mineral network
initialize_network("all")
run_app

Run the "dragon" Shiny Application

Description
Run the "dragon" Shiny Application

Usage
run_app()

Examples
## Not run:
library(dragon)
dragon::run_app()

## End(Not run)

run_dragon

Run the "dragon" Shiny Application. Wrapper for dragon::run_app().

Description
Run the "dragon" Shiny Application. Wrapper for dragon::run_app().

Usage
run_dragon()

Examples
## Not run:
library(dragon)
dragon::run_dragon()

## End(Not run)
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