

# Package ‘openPrimeRui’

March 26, 2024

**Title** Shiny Application for Multiplex PCR Primer Design and Analysis

**Version** 1.24.0

**Description** A Shiny application providing methods for designing, evaluating, and comparing primer sets for multiplex polymerase chain reaction. Primers are designed by solving a set cover problem such that the number of covered template sequences is maximized with the smallest possible set of primers. To guarantee that high-quality primers are generated, only primers fulfilling constraints on their physicochemical properties are selected.

**Depends** R ( $\geq 4.0.0$ ), openPrimeR ( $\geq 0.99.0$ )

**License** GPL-2

**Encoding** UTF-8

**RoxygenNote** 6.0.1

**Imports** shiny ( $\geq 1.0.2$ ), shinyjs ( $\geq 0.9$ ), shinyBS ( $\geq 0.61$ ), DT ( $\geq 0.2$ ), rmarkdown ( $\geq 1.0$ )

**Suggests** knitr ( $\geq 1.13$ )

**biocViews** Software, Technology

**VignetteBuilder** knitr

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openPrimeRui-package    *The openPrimeR Shiny Application.*

### Description

Using the openPrimeR Shiny application, you can evaluate existing primers or design novel primers for multiplex polymerase chain reaction that are optimized with respect to the coverage of template sequences and the physicochemical properties of the primers.

### Details

The Shiny application can be started using `startApp`, which should open the frontend in your default web browser.

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myCatch                    *Custom Catch Function*

### Description

Returns a data frame if the input expression causes an error, otherwise returns the value of the evaluated expression.

### Usage

```
myCatch(expr)
```

### Arguments

expr                    Expression to evaluate.

### Value

The evaluated expression.

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`startApp`*The openPrimeR Shiny Application.*

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**Description**

Starts the openPrimeR Shiny application. A new tab should open in your default browser. If no browser is opened, please consider the console output to identify the local port on which the server is running and manually open the shown URL.

**Usage**

```
startApp()
```

**Value**

Opens the Shiny app in a web browser.

**Note**

The Shiny app can be started only if you fulfill all of the suggested package dependencies for the Shiny framework, so please ensure that you've installed openPrimeR including all suggested dependencies.

**Examples**

```
# Start the shiny app
## Not run:
startApp()

## End(Not run)
# Only run this example in interactive R sessions:
if (interactive()) {
  startApp()
}
```

---

`withWarnings`*Error/Warning Handler.*

---

**Description**

Evaluates an expression without throwing warning/errors.

**Usage**

```
withWarnings(expr)
```

**Arguments**

expr                    Expression to evaluate

**Details**

Instead of throwing warnings/errors, the warnings/errors are returned in a list object, alongside with the results.

**Value**

List containing values, warnings, and errors.

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