# Package 'ompr.roi'

September 9, 2023

**Type** Package

**Title** A Solver for 'ompr' that Uses the R Optimization Infrastructure ('ROI')

**Version** 1.0.2

**Description** A solver for 'ompr' based on the R Optimization Infrastructure ('ROI'). The package makes all solvers in 'ROI' available to solve 'ompr' models. Please see the 'ompr' website <https://dirkschumacher.github.io/ompr/> and package docs for more information and examples on how to use it.

**License** MIT + file LICENSE

**RoxygenNote** 7.2.3

**Encoding** UTF-8

**URL** https://github.com/dirkschumacher/ompr.roi

**BugReports** https://github.com/dirkschumacher/ompr.roi/issues

**Depends** R (>= 3.5.0)

**Imports** ROI (>= 0.3.0), slam, methods, Matrix, ompr (>= 1.0.1)

**Suggests** testthat, magrittr, ROI.plugin.glpk

**ByteCompile** Yes

**NeedsCompilation** no

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**Repository** CRAN

**Date/Publication** 2023-09-09 11:10:02 UTC

## R topics documented:

## ompr.roi-package *A Solver for 'ompr' that Uses the R Optimization Infrastructure ('ROI')*

### Description

A solver for 'ompr' based on the R Optimization Infrastructure ('ROI'). The package makes all solvers in 'ROI' available to solve 'ompr' models. Please see the 'ompr' website <https://dirkschumacher.github.io/ompr> and package docs for examples on how to use it.

### Author(s)

**Maintainer**: Dirk Schumacher <mail@dirk-schumacher.net>

### See Also

Useful links:

- https://github.com/dirkschumacher/ompr.roi
- Report bugs at https://github.com/dirkschumacher/ompr.roi/issues

## as_ROI_model *Export to ROI::OP*

### Description

This function can be used to transform an ompr model to a ROI::OP object.

### Usage

```
as_ROI_model(model)
```

### Arguments

| | |
|---|---|
| model | an ompr model |

### Value

an object of S3 class 'ROI::OP'

`with_ROI` *Configures a solver based on 'ROI'*

## Description

This function makes all solvers in the R package 'ROI' available to solve 'ompr' models.

## Usage

```
with_ROI(solver, ...)
```

## Arguments

| | |
|---|---|
| `solver` | the 'ROI' solver name (character vector of length 1) |
| `...` | optional parameters passed to ROI_solve<br>Note: it does only support column duals. It currently does not export row duals. |

## Value

a function: Model -> Solution that can be used together with `solve_model`. You can find `ROI`'s original solver `message` and `status` information in `<return_value>$ROI`. The `ompr` status code is `"success"` if `ROI` returns `code = 0` and is `"error"` otherwise.

## References

Kurt Hornik, David Meyer, Florian Schwendinger and Stefan Theussl (2016). ROI: R Optimization Infrastructure. <https://CRAN.R-project.org/package=ROI>

## Examples

```
## Not run:
library(magrittr)
library(ompr)
library(ROI)
library(ROI.plugin.glpk)
add_variable(MIPModel(), x, type = "continuous") %>%
 set_objective(x, sense = "max") %>%
 add_constraint(x <= 5) %>%
 solve_model(with_ROI(solver = "glpk", verbose = TRUE))

## End(Not run)
```

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