

## How to run and test RBA for CompSysBio courses ?

RBA is a constraint-based modeling method that calls the resolution of a series of Linear Programming Optimization problems.

To run RBA on matlab for the course, you should have Matlab and either Cplex (version 12.4, 12.6 or 12.8), either the Matlab Optimization Toolbox on your own computer.

Please follow the steps below to check if RBA can run on your computer.

1. Download the file RBA\_CompSysBio\_test.zip from the Dropbox, unzip it.
2. Run Matlab and go to the directory RBA\_CompSysBio\_test

**If you use the Matlab Optimization Toolbox**, then run the script `exec_RBA_toolOpt.m` by typing in the workspace `exec_RBA_toolOpt`.

**If you use Cplex**, then open the script `exec_RBA_cplex.m` by typing `edit exec_RBA_cplex.m`. Then update on line 4 the variable `path_cplex` with the path of Cplex on your computer.

Then run the script `exec_RBA_cplex.m` by typing in the workspace `exec_RBA_cplex`.

Both scripts solve a RBA problem for the bacterium *Bacillus subtilis* growing on a glucose minimal medium and return a growth rate value of  $0.6614 \text{ h}^{-1}$ .