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Unit 13 - Week 9

Course outline

How to access the portal

Pre-requisite Assignment

MATLAB Access and Introduction

MATLAB Learning Modules

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Week 2

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Week 7

Week 8

Week 9

- 71 - Lab: Gene Deletions
- 72 -Integrating Regulatory Information into Constraint-Based Models
- 73 - Elementary

Assignment 9

The due date for submitting this assignment has passed. **Due on 2018-10-03, 23:59 IST.**
As per our records you have not submitted this assignment.

1) Regulatory FBA ***1 point***

- ☐ Integrates information about gene regulation in metabolic networks
- ☐ can be used to understand the catabolite repression
- ☐ integrates data from microarray experiments
- ☐ cannot determine the flux distributions in a metabolic network

No, the answer is incorrect.
Score: 0

Accepted Answers:
Integrates information about gene regulation in metabolic networks
can be used to understand the catabolite repression
integrates data from microarray experiments

2) Not all essential genes in a pathogenic organism are good drug targets. This is because: ***1 point***

- ☐ There are a few essential genes in the pathogenic organism which are homologous to human
- ☐ The organism can salvage through the other genes which form a part of other pathways
- ☐ The drugs designed to bind to the products of essential genes may bind to human proteins
- ☐ None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
There are a few essential genes in the pathogenic organism which are homologous to human
The drugs designed to bind to the products of essential genes may bind to human proteins

3) Elementary modes in a metabolic network ***1 point***

- ☐ Are all possible linear dependent pathways that can carry a flux at steady state
- ☐ Can be determined from the stoichiometric matrix
- ☐ Minimal set of reactions carrying flux that operate in correct direction

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Networks: Applications
76 - Constraint-based Modelling of Metabolic Networks: Applications
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Quiz : Assignment 9
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Are a superset of extreme pathways

4) For the model given (iMM904.xml or iMM904.mat), using COBRA Toolbox, answer the following questions

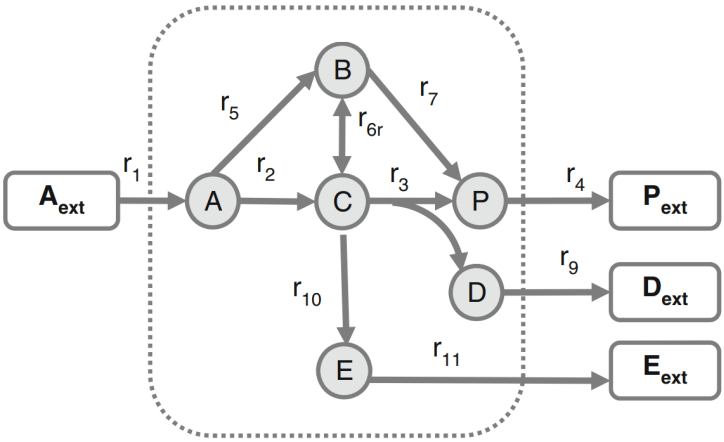
How many single reaction lethals are found in the model?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 301

1 point

5) For the network with 10 reactions as given below, which of the following statements is true? ***1 point***



- [ ] r1, r2, r10, r11 is an extreme pathway and an elementary flux mode
- [ ] r1, r2, r10, r11 is an elementary flux mode but not an extreme pathway
- [ ] r1, r2, r10, r11 is an extreme pathway but not an elementary flux mode
- [ ] This network has no extreme pathways

No, the answer is incorrect.
Score: 0

Accepted Answers:
r1, r2, r10, r11 is an elementary flux mode but not an extreme pathway
This network has no extreme pathways

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