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NPTEL

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Courses » Computational Systems Biology

Announcements

Course

Ask a Question

Progress

Mentor

FAQ

Unit 14 - Week 10

Course outline

How to access the portal

Pre-requisite Assignment

MATLAB Access and Introduction

MATLAB Learning Modules

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Quiz : Assignment 10

Assignment 10

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Due on 2018-10-10, 23:59 IST.

1) E. coli was grown in a medium containing labelled glucose. The labelling pattern of a major fraction of pyruvate found to be as shown: **2 points**



Which of the following best describes the underlying experiment?

☐

The experiment was carried out on $1\text{-}^{13}\text{C}$ glucose

☐

Glycolysis exhibited the highest activity

☐

Pentose phosphate pathway exhibited highest activity.

☐

The experiment was carried out on $\text{U-}^{13}\text{C}$ glucose

No, the answer is incorrect.

Score: 0

Accepted Answers:

The experiment was carried out on $1\text{-}^{13}\text{C}$ glucose

Pentose phosphate pathway exhibited highest activity.

2) Silyl reagents most commonly used in derivatization: **2 points**

☐

make amino acids volatile

☐

replace active nitrogen in the amino acids

☐

convert amino acids to a more stable form so that they do not volatilize

☐

replace active hydrogens in the amino acids

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☐ 81 -
Constraint-based
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☒ 82 -
13C-Metabolic
Flux Analysis
using Mass
Spectrometry

☐ 83 -
13C-Metabolic
Flux Analysis
using Mass
Spectrometry

☒ 84 -
13C-Metabolic
Flux Analysis
using Mass
Spectrometry

☒ 85 - Lab:
13C-Metabolic
Flux Analysis
using Mass
Spectrometry

☐ Week 10
Feedback :
Computational
Systems
Biology

☐ Assignment 10
solution

Week 11

Week 12

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ce De

	Fragment	Fragment mass	Intensities (ion count)
ser	M-15	432	15000
		433	4500
		434	2030
		435	1000

Calculate the mass distribution vector (enter the answers correct to three decimal places separated by commas e.g., 0.871, 0.023, 0.037, 0.031)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: String) 0.665,0.199,0.090,0.044

(Type: String) 0.665, 0.199, 0.090, 0.044

(Type: String) 0.666, 0.199, 0.090, 0.044

(Type: String) 0.665, 0.2, 0.090, 0.044

(Type: String) 0.666, 0.2, 0.090, 0.044

3 points

4) Based on the data given in question 3 answer this question.

Calculate the fractional labelling from this fragment.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 0.171

(Type: Numeric) 0.170

(Type: Numeric) 0.1705

3 points

Previous Page

End

