

Unit 7 - Week 5 : DNA Replication, Polymerases, DNA Sequencing and PCR

Course outline

How does an NPTEL online course work?

Week 0: Prerequisite

Week 1: Nucleic acids and proteins

Week 2: Nucleic acids and proteins

Week 3 : Synthesis of Nucleobases and Nucleotides

Week 4 : DNA Replication, Polymerases, DNA Sequencing and PCR

Week 5 : DNA Replication, Polymerases, DNA Sequencing and PCR

● Lec 14: DNA sequencing: Maxam- Gilbert method

● Lec 15: Numerical Problem - 1

● Lec 16: Sugar Chemistry

○ Quiz : Assignment 5

○ Weekly feedback form for week 5

○ Lecture notes: Week 5

Week 6: DNA damage, mutation and cancer

Week 7: DNA to proteins: transcription, translation and genetic code`

Week 8: Protein Sequencing and Solid Phase Peptide Synthesis (SPPS)

Week 9: Chemical Synthesis of Peptides and its therapeutic applications; Spectroscopic techniques for biomolecules.

Week 10: Modern techniques for biomolecules study, purification and characterization; Molecular probes

Week 11: Molecular probes and Chemistry of carbohydrates

Week 12: Chemistry of carbohydrates and Recap

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Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-03-04, 23:59 IST.

1) How many different chemical cleavage reactions are required for the Maxam and Gilbert sequencing system? 1 point

- 1
 2
 3
 4

No, the answer is incorrect.
Score: 0

Accepted Answers:
4

2) The number of bands obtained in gel electrophoresis if the DNA (5'-32P-ATTGACGA-3') is treated with dimethyl sulphate and Piperidine: 1 point

- 3
 4
 2
 1

No, the answer is incorrect.
Score: 0

Accepted Answers:
2

3) Which target would you use to cleave both Thymine and Cytosine in a DNA: 1 point

- Hydrazine
 Piperidine
 Dimethyl sulphate, Piperidine and formic acid
 Only dimethyl sulphate

No, the answer is incorrect.
Score: 0

Accepted Answers:
Hydrazine
Piperidine

4) What would be the approximate length of a ssDNA containing 700 bases: 3 points

- 2376 Å
 4753 Å
 7000 Å
 170 Å

No, the answer is incorrect.
Score: 0

Accepted Answers:
2376 Å

5) Calculate the concentration of a ssDNA (5'- ATGACGCGCCAATGC-3') if A260 is observed to be 1.2 of a 20 times diluted sample (Dilution Factor of 20), using a cuvette of 1cm diameter. 3 points

- 12.9 μM
 258 M
 1.29 M
 258 μM

No, the answer is incorrect.
Score: 0

Accepted Answers:
258 μM

6) Which metal ion is used for click chemistry reaction: 1 point

- Zinc
 Copper
 Iron
 Chromium

No, the answer is incorrect.
Score: 0

Accepted Answers:
Copper