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NPTEL

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**Courses** » **Applications of interactomics using Genomics and proteomics technologies**

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# Unit 7 - Week 6

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## Course outline

**How to access the portal**

**Week 1**

**Week 2**

**Week 3**

**Week 4**

**Week 5**

**Week 6**

● Lecture 26 : Biomolecular interactions using Bio-Layer Interferometry (BLI)-I

● Lecture 27 : Biomolecular interactions using Bio-Layer Interferometry (BLI)-II

● Lecture 28 : Biomolecular interaction analytics using MicroScale Thermophoresis

● Lecture 29 :

## Assignment 6

**The due date for submitting this assignment has passed.**
**As per our records you have not submitted this assignment.**   **Due on 2019-04-10, 23:59 IST.**

1) Which of the following is correct for Bulk effect?                           *1 point*

  ○ Bulk effect – when analyte binds and increases the RU

  ○ Bulk effect – when buffer binds and increases the RU

  ○ Bulk effect – when analyte and buffer binds to increase the RU

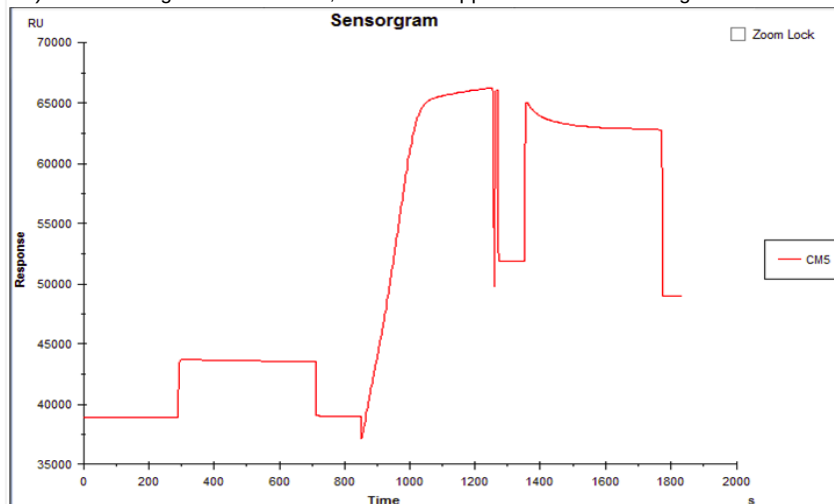  ○ Bulk effect – when no binding takes place

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Bulk effect – when buffer binds and increases the RU*

2) Based on Figure shown below, what is the approximate amount of ligand immobilized?     *1 point*



  ○  8000 RU

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**Week 7**

**Week 8**

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**Accepted Answers:**
*10000 RU*

3) Which of the following bonds is used for immobilization of capturing molecule?    **1 point**

  ○ Ionic bond

  ○ Covalent bond

  ○ Van der Waal

  ○ H-bond

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Covalent bond*

4) Ligands for immobilization require to have which of the following characteristics?    **1 point**

  ○ Molecular weight and valency should be more

  ○ Molecular weight and valency should be less

  ○ Molecular weight should be more but valency should be less

  ○ Molecular weight should be less but valency should be more

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Molecular weight and valency should be more*

5) Rahul sets a reactions of an enzyme and analyte having slow dissociation kinetics, which of **1 point**
the cases explains the best choices of experiment?

  ○ Multi cycle kinetics

  ○ Single cycle titration kinetics

  ○ Short and long kinetics

  ○ Steady state kinetics

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Short and long kinetics*

6) Ramesh has used capture immobilization for his target ligand. What does this suggests    **1 point**
about the ligand he is working on?

  ○ Ligand was not pure

  ○ Ligand was unstable

  ○ Regeneration conditions were known

  ○ All of the above

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*All of the above*

7) Which of the following high throughput panels can be used to locate the gene mutations?    **1 point**

  ○ Gene panel

  ○ Exome panel

○ Intron panel

○ Chromosome panel

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Exome panel*

8) What is the importance of pH scouting?                                    *1 poi...*

○ Predicts buffer compatibility at a particular viscosity

○ Predicts buffer compatibility at a particular temperature

○ Predicts buffer compatibility at a particular pH

○ All of the above

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Predicts buffer compatibility at a particular pH*

9) Ram is working on immobilization of protein ligand. He checked for EDC and chip quality   *1 point*
but fails to attain the RU upto expected range. What else should he check during such SPR
experiments?

☐ pH of the solvent

☐ pI of the Ligand

☐ Pre concentration

☐ Concentration of C1 on the chip

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*pH of the solvent*
*pI of the Ligand*
*Pre concentration*

10) The biomarkers can be used for which of the following?                    *1 point*

○ Screening of Diseases

○ Screening of host genders

○ Screening of Healthy individuals only

○ Screening cannot be done using Biomarkers

**No, the answer is incorrect.**
**Score: 0**

**Accepted Answers:**
*Screening of Diseases*

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