

Lecture 4.1 Quiz
Principles of Electronic Nanobiosensors
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Answer the five questions below by choosing the one, best answer.

- 1) The term 'False positive' is used to discuss the selectivity of a biosensor. It means:
 - a) Inability to find a disease when it is present.
 - b) Suggesting that a biomolecule is present, although it is not.
 - c) Confirming the presence of a biomolecules at very low concentration.
 - d) All of the above.

- 2) Which of the following statement is correct regarding binding of a DNA?
 - a) The binding strength of a DNA does not depend on the salt concentration.
 - b) A binding between DNA molecules are possible even if they are not perfectly complementary.
 - c) The binding strength of DNA does not depend on number of mismatches.
 - d) A longer DNA has the same binding energy as a shorter DNA.

- 3) The melting temperature of a pair of DNA molecules depends on:
 - a) The relative concentration of A, T, C, G molecules.
 - b) The total number of A, T, C, G molecules.
 - c) The number of mismatched pairs of nucleotides.
 - d) All of the above.

- 4) PNA is a special type of DNA, because
 - a) It does not carry any charge in its backbone.
 - b) Can operate only at high salt concentration.
 - c) Is found in natural organism.
 - d) All of the above.

- 5) A number of strategies have been used to improve selective binding of DNA.
 - a) New DNA design that changes the backbone of the DNA.
 - b) New Nucleotide design that provides more symmetric binding of A-T and C-G pairs.
 - c) Precise control of temperature of the substrate so that parasitic binding can be removed.
 - d) All of the above.

End of quiz. This quiz contains 5 questions.