Quiz: Week 1 Lecture 2
Principles of Electronic Nanobiosensors
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Answer the **four questions** below by choosing the **one, best answer**.

1) The average size of a virus is comparable to

a) The size of the dot at the end of this sentence.
b) Individual transistors within your iPhone (30-60 nm).
c) A Water molecule.
d) A Cancer cell.

2) A DNA molecule is negatively charged because

a) It is a polymer and all polymers are charged.
b) It has four bases and the bases donate protons.
c) It is an acid and acids ionize in solution.
d) The negative charges from the salt solution condense on DNA.

3) Which of the following statements are true for a protein?

a) Protein is a polymer composed of a string of amino acids.
b) The amino acids can be negative or positive, depending on the pH of the solution.
c) The joining of two amino acids produces water as a reaction byproduct.
d) All of the above.

4) Assume that the diffusion coefficient of a protein is 4 times larger than that of a segment of DNA. Which of the following statements is true?

a) On average, the DNA travels approximately the same distance as the protein.
b) On average, the DNA travels approximately 4 times the distance compared to the protein.
c) On average, the DNA travels approximately twice the distance as the protein.
d) On average, the DNA travels approximately half the distance as the protein.

End of quiz. This quiz contains 4 questions.