

Problem Set #7

Tech and Methods 2

Question 1: List the materials required for running a PCR.

Answer:

Question 2: Name the steps that constitute one PCR cycle and indicate what the nominal temperature of these steps are for a standard PCR. What is a standard cycle number for a standard PCR?

Answer:

Question 3: In agarose gel electrophoresis one can use different percentages of agarose. What influence does the agarose concentration have on DNA migration through the gel?

Answer:

Question 4: In agarose gel electrophoresis, does DNA migrate towards the anode or cathode, and why?

Answer:

Question 5: What is a DNA ladder, what is it made of, and what is it used for?

Answer:

Question 6: In real-time PCR, what gives an indication of the original DNA concentration that was amplified?

Answer:

Question 7: What is the main difference between a “standard” PCR and an isothermal PCR?

Answer:

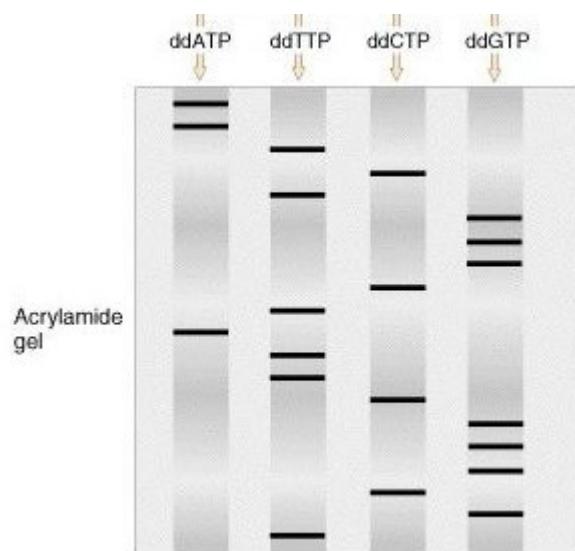
Question 8: How does Gibson assembly work?

Answer:

Question 9: What are the major advantages and disadvantages of microarray based oligo synthesis compared to standard column synthesis?

Answer:

Question 10: What is the DNA sequence based on the Sanger DNA sequencing gel shown below?



Answer: