

## EXERCISE 9B - Postlab

1. From an examination of your agarose gel, how did you know which of your unknown plasmid samples contained the pUC18 plasmid with the phage  $\lambda$  DNA insert? Explain in detail.
2. From an examination of your agarose gel, how did you know which of your unknown plasmid samples contained the pUC18 plasmid without the phage  $\lambda$  DNA insert? Explain in detail.
3. According to your calculations, what is the approximate size of the pUC18 plasmid? How does your calculation compare to the known length of pUC18?
4. According to your calculations, what is the approximate size of the phage  $\lambda$  DNA fragment that was inserted into the pUC18 plasmid?
5. Each of your A, B, and C agar plates was inoculated with *E. coli*, but the results were very different.
  - a) Describe the results you observed on plate A. Also, provide a **detailed explanation** of your results in terms of the composition of the nutrient agar that was in the plate, the genotype of the *E. coli* cells that were inoculated on this plate, and the genotype of the plasmids that were absorbed by the *E. coli* cells (if any).
  - b) Describe the results you observed on plate B. Also, provide a **detailed explanation** of your results in terms of the composition of the nutrient agar that was in the plate, the genotype of the *E. coli* cells that were inoculated on this plate, and the genotype of the plasmids that were absorbed by the *E. coli* cells (if any).
  - c) Describe the results you observed on plate C. Also, provide a **detailed explanation** of your results in terms of the composition of the nutrient agar that was in the plate, the genotype of the *E. coli* cells that were inoculated on this plate, and the genotype of the plasmids that were absorbed by the *E. coli* cells (if any).