INQUIRY/DISCOVERY APPROACH ALTERNATIVE FOR THE DNA ELECTROPHORESIS LAB

Prelab Scenario
The following scenario can be used to introduce the laboratory experience to the class:

Welcome to the TOPS DNA Analysis Lab. Today begins your first assignment with this elite group of forensic scientists, where you will be providing answers to solve crimes.

Below is an sample photograph from our latest project. It represents a specimen taken from a crime scene in which the DNA gathered has been reacted with a restriction enzyme for analysis. We believe that the individual who left behind this sample was the murderer. It will be up to you to determine which of the possible suspects if any is guilty. You must use the experimental data that you gather to match the murderer to a suspect. You could be called upon to provide expert testimony to the Grand Jury, so be sure to justify your conclusions.

You will begin by practicing your technique under the watchful eyes of a supervisor, and when you are proficient at the specific skills that will be necessary, you will begin work on the investigation.

Good Luck! and Welcome Aboard!
Case Profile:

Early this morning, at approximately 7:00 a.m., Alice, maid to billionaire business tycoon Michael Kelsey, discovered Mr. Kelsey's body slumped over the desk in his study when she entered the room to bring him his Wall Street Journal and coffee.

Mr. Kelsey apparently had been revising his will when the murder occurred. A draft of the will, which would have dis-inherited his family and business partners, leaving his entire fortune to his alma mater, lay crumpled at his feet.

Although the killer poisoned Mr. Kelsey, he struggled somewhat with the killer before he died. Hair samples belonging to the murderer remained in Mr. Kelsey's hand. We have narrowed the list of suspects down to two:

1: Angela Allen, Mr. Kelsey's long-time business partner who would have inherited half of his company.

2: Scott Edwards, jealous step brother to Michael Kelsey who also would have inherited half of the company and had dreams of selling off the company and moving to Tahiti with his mistress Rachel Kelsey, Michael Kelsey's wife.

Both Angela Allen and Scott Edwards have shoulder length auburn-colored hair. Neither Angela nor Scott had a good alibi for their whereabouts for the time of the murder. A week after the murder took place, Scott remembered that he had been practicing his golf swing in the backyard when the murder would have taken place. Angela had fallen asleep while waiting for her limo driver to take her to the airport to catch the red-eye to Las Vegas.

Evidence Report:

Just the FACTS.
In a well organized essay, explain the results that you obtain. Include your method, the control, and the outcome for each suspect. It is important that you provide documentation to support your conclusion.