Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Laboratory Analysis of Drugs

Purpose:

You have just been called to a crime scene to analyze for the presence of drugs as an expert. Based on eyewitness accounts, you believe that the perpetrator and victim were together before the murder occurred. It appears that you find a mysterious powder at the scene. You also find powder at the homes of 3 suspects.

Question:

What is the drug that you found at the scene?

Does the drug match the drug found at one of the suspects’ house?

Suspects:

Victim- Age 32. Found approximately 19 hours after death. Found with a chapped nose and a gunshot wound to the head. Victim has been in rehab for Cocaine use before.

Victim’s Mother- Age 59. Claims innocence. Seems like a typical caring/ worrying mother. Happened to be at the scene earlier that day. White powder found in her bedroom.

Victim’s Friend- Age 34. Claims innocence. Has been caught with Oxycontin in 1 past instance in college. White powder found in his basement.

Victim’s Girlfriend- Age 33. Claims innocence. Has not been caught with Cocaine. Was dating victim who has been in rehab for Cocaine before. White powder found in her bathroom.

Hypothesis: Given their backgrounds, who do you believe could be the suspect?

Procedure:

We have placed the powders found on each suspect into solution to be tested. Assume we are aware of the substances needed to test for several drugs with this appearance.

* Your group will be switching stations throughout the lab. You will be testing for the presence of a different substance at each station.
* At ALL of the stations, you will place 3-4 drops of each suspect into a separate well. Keep track of each well as it is specific to each suspect.
* Then, place a drop or two of the reagent that will be added to test for the substance. Note any reactions that you see. If it reacts, that substance is present.
* You may want to take images for your lab report.
* Dump your solutions into the garbage first, then rinse out the well plates thoroughly.

Data:

Station 1

Presence of Methamphetamines

Observations:

Station 2

Presence of Cocaine

Observations:

Station 3

Presence of Oxycontin

Observations:

Results and Conclusion:

Please take a paragraph or two to summarize your results and conclusion. Refer to your hypothesis and data.

What are some limitations of this experiment?