Currently research in our labs is being conducted to develop methods for extracting and separating lipstick samples that are left on different mediums at the scene of a crime. If lipstick is left behind the chemical substituents within the lipstick can be separated into a unique set of bands. This set can then be compared to known separations of lipstick in order to determine the make and color. This could be very useful when initially determining suspects.

Nine different lipsticks of various colors and brands were used to conduct research. A sample of lipstick was smeared onto filter paper and then rinsed three times with petroleum ether to remove waxes and oils. The filter paper was then placed into a separate test tube containing methanol-ammonia hydroxide; this solution was transferred to a glass vial to be heated. After the solution evaporated, leaving only dried dyes, two drops methanol was added to the vial to re-dissolve the residue. The solution was then spotted onto a thin layer chromatography (TLC) plate and placed in a beaker containing ethyl acetate, methanol, and ammonium hydroxide to separate the components of the dyes. The dyes migrate up the TLC plate based on their retention factor, which will be unique to each lipstick.