

**Purpose:** examine some aspects of the action of pancreatic lipase and bile salts on lipids

**Procedure:** Add just a little bit of litmus powder to a container of dairy cream to produce a medium blue color in the test tube. Then poured 3 ml of the litmus cream into 4 separate test tubes. To continue, Into two additional test tubes we then poured 3 ml of 2% pancreatin. Followed by Pre Incubating the litmus cream and the pancreatin separately in a 37 C water bath for 5 minutes. We Then prepared four test tubes like so:

- **Tube #1:** 3 ml cream + 3 ml pancreatin
- **Tube #2:** 3 ml cream + 3 ml distilled water
- **Tube #3:** 3 ml cream + 3 ml pancreatin + pinch of bile salts

Then Gently we shook each tube for 30 seconds to mix in the bile salts. Incubated all four tubes in a 37 C water bath for 1 hour, checking every minute for the first 5 minutes or until the first tube changed color, then every 15 minutes for the rest of the hour. We recorded the time and number of the tube. Continuing checking for the remainder of the hour. Lastly, we removed the tubes from the water bath and tested the pH of each tube using pH paper and noted the odor and color of each tube.

**Results:**

<b>First 10 minutes</b>	<b>20 minutes</b>	<b>30 minutes</b>
<b>H2O</b> - same purple color	-Same color except the bottom separated into a darker purple color	-Turned a dark purple color; 8 on the PH scale
<b>Pancreatic</b> - light purple color	-Super light purple color	-Super light purple color; 7 on the PH scale
<b>H2O w/ bile</b> - dark Purple color	-Foamy; Dark purple color at the bottom of the tube	-Dark purple color ; 9 on the PH scale
<b>Pancreatic w/ bile</b> - lilac color	-Foamy; lighter purple in color	-Top half light purple and bottom half dark purple; 8 on the PH scale

**Discussion:** After finishing this lab, my lab partner and I were surprised with the results.

Genuinely, we thought that all of the test tubes would have very minor differences in them, but we were proven wrong. As the table shows, just the H2O started off the same color for some time, but slowly started to turn dark purple. The pancreatic started off as a light purple color and remained a dark purple color at the end with the lowest PH level of 7. The H2O with bile started off a dark purple color and ended a dark purple color with the highest PH level of 9. Lastly, the pancreatic with bile started off a light purple, lilac color and ended with half light and half dark with the same PH level as just the H2O.

**Conclusion:** In conclusion, my partner and I were extremely surprised with the results of all the test tubes. We had predicted that the pancreatic with bile was going to be the one with the highest PH level, but came in second after H<sub>2</sub>O with bile salts. I think it was interesting how these two test tubes, the one with the highest PH levels, were the ones that were the “stinkiest”. It may have to do with the PH levels? Or maybe the bile salts?