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Lab 3- Properties of Enzyme action  
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**Purpose:** The purpose for this experiment is to test the digestion of fat with pancreatic lipase and bile salts. We tested how bile salts can really affect the outcome of the experiment with different compounds as well as using pancreatin that helped us see a difference.

**Procedures:** In step one we added just enough litmus powder to a container of dairy cream to produce a medium blue color. Poured 3 ml of the litmus cream into 4 separate test tubes. Into two additional test tubes poured 3 ml of 2% pancreatin. Preincubated the litmus cream and the pancreatin separately in a 37° C water bath for 5 minutes. After we prepared four test tubes as followed:

- 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
- Tube #4: 3 ml cream + 3 ml distilled water + pinch bile salts

In step two 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. Recorded the time and number of the tube. Continued checking for the remainder of the hour. Step three we removed the tubes from the water bath. Tested the pH of each tube using pH paper and noted the odor and color of each tube. Step four we summarized the results by tube number, color, pH, odor, and the time the color changed.

**Results:**

Tube #:	Color:	pH:	Odor:	Time to change color:
1	Light pink	6	Smells like cheese	After 45 mins
2	Purple	9	Light odor	No color change
3	Light purple/yellow top	6	Strong odor of cheese	After 15 mins
4	Pinkish	8	Medium odor	After 30 mins

**Discussion:** At first my partner and I were confused on what we needed to pour in the tubes first, but after figuring it out we were able to get a good head start. After we got everything, we needed in the tubes a lot of our time was just spent keeping track of time to make sure we got

to see the color change and smell of the tubes. While observing the tubes we noticed how the pinch of bile salts caused more effect on the tube's outcome than the other two tubes. Not only was there a difference in color but the smell it created was much more potent than the others.

**Conclusions:** I was glad once we were done with the experiment since it felt like time was going so slow since we were keeping track of time through the whole duration of the experiment. This experiment helped us understand the way enzymes work, the difference between digestion and emulsification as well as the roles indicators and buffer play a role in when it came to this experiment.