

Lab 2.

## Molecular Activity and Membrane Transport

Bio 125

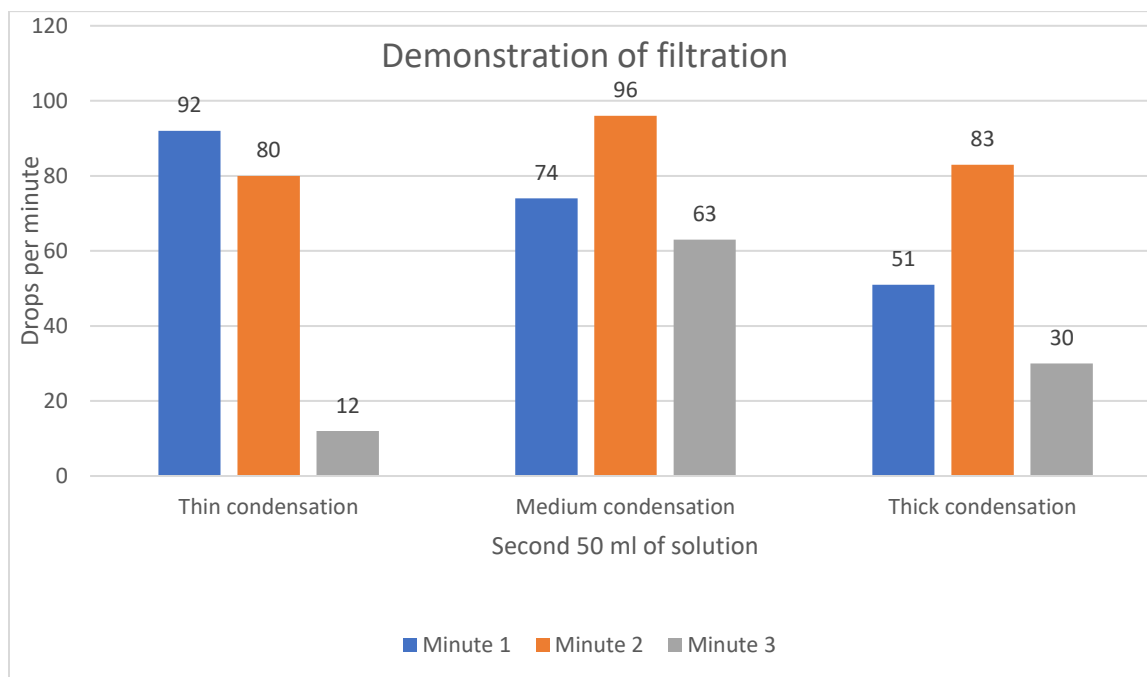
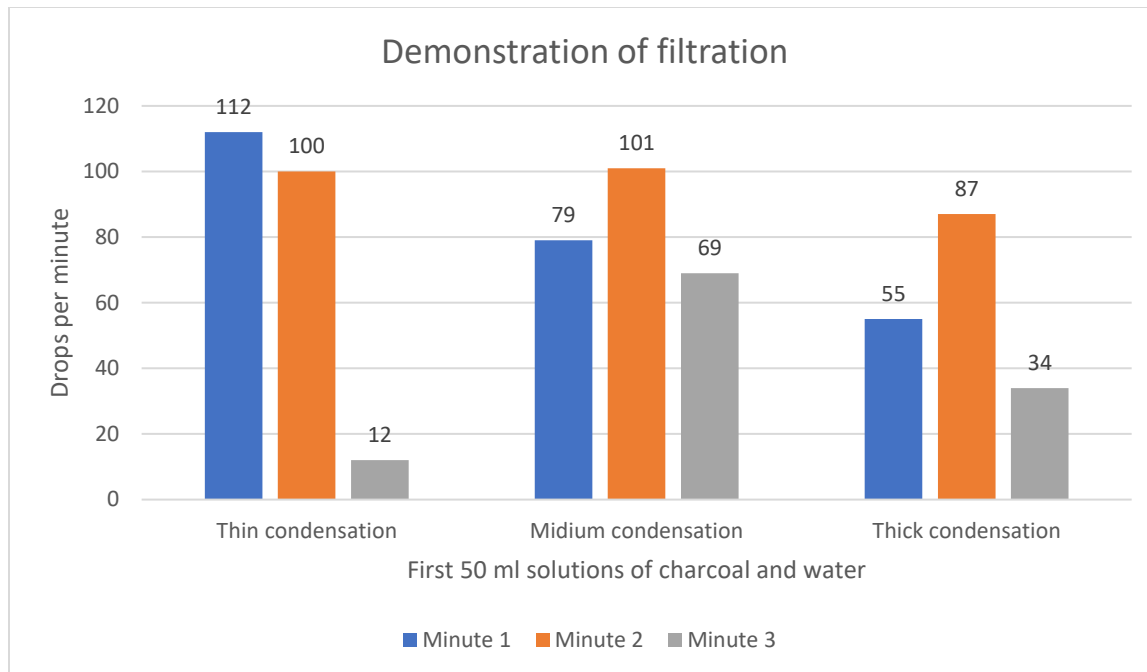
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2-D. The purpose of this laboratory exercise was to understand the concept of filtration. The first step in the procedure was to get familiar with the instruments I needed to use, filter papers, glass funnels, and charcoal powder. For this activity, I prepared three 100 milliliter solutions of charcoal and water. One was thin in condensation, the second solution's condensation was medium, and the third one was very thick.

This experiment was done in two phases, using 50 ml of the prepared solution for each one, I put half of the solution into the three different filters placed in each funnel. Then, I started counting the filtered drops for one minute and recorded. The same procedure was done two more times, one when the filter was half-filled and the other one when it was nearly empty.

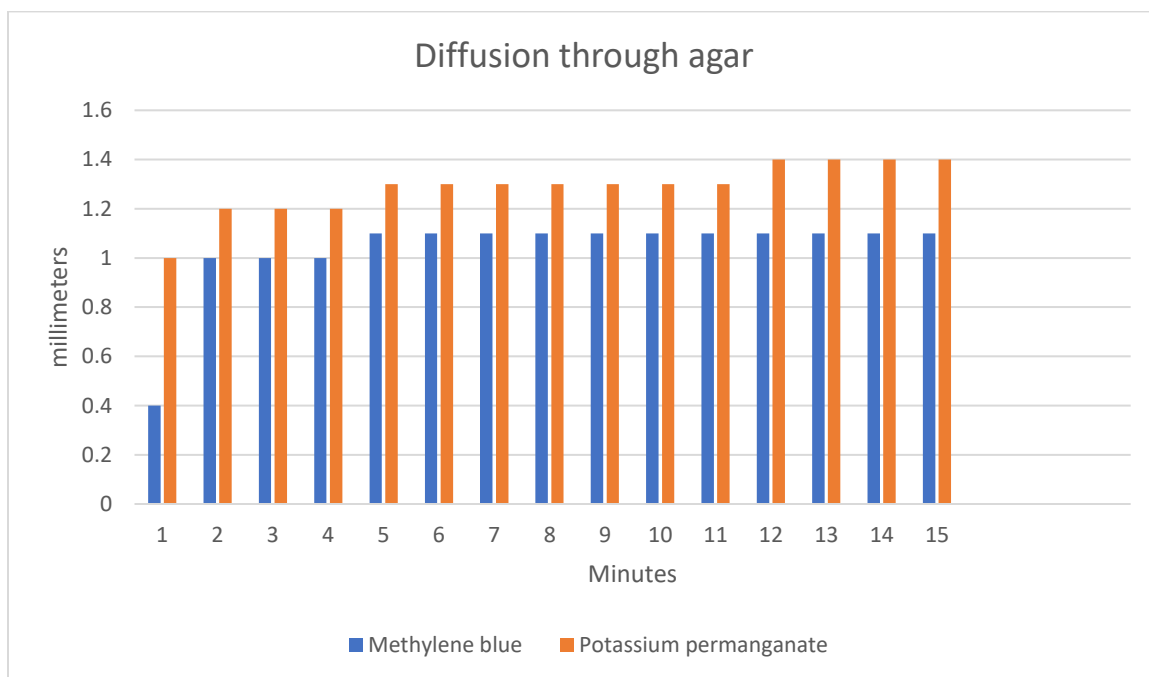
The results are shown in these graphs. As we can see, the filtration rate of the thin solution was faster than the other two, like I predicted.



However, at the end of the experiment, I realized that the result was not at all accurate because with the medium thickness substance, the filtration rate was faster than the thin substance. That was because of an error. Maybe I made the cone the wrong way, leaving an open

end, and for that reason the filtration and result were altered. At the end, I learned that to obtain accuracy, I need to make sure that I am performing the experiments in the same way, so the results won't be altered.

2-C. The second experiment that I did was the measurement of diffusion through agar. For this experiment, I used a petri dish, methylene blue, and potassium permanganate. In the petri dish already prepared with two holes, I put two dops of each chemical in each of the holes and recorded the diameter of each spot. I recorded it for fifteen minutes total and I measured the diameter of each one every other minute. The results are shown in this graph.



In this graph, it is shown that Potassium permanganate diffused more rapidly than Methylene blue. After looking up the molecular formula of both chemicals, I realized that the difference in molecular weight between them was the key for the result of this experiment.

Note: Molar mass of Potassium Permanganate 158.034 g/mol. Methylene Blue 319.85 g/mol.