

October 14, 1954

Dr. Harlyn O. Halverson
University of Michigan
Medical School
Ann Arbor, Michigan

Dear Harlyn:

Under separate cover I am sending you a fair supply of the alpha phenyl D-glucoside, it may require one recrystallization. It has already gone through two, subsequent to the de-acetylation. I am also enclosing a copy of our procedure for the synthesis of this compound which is really quite simple and should give good yields.

With respect to the nitro-phenyl derivative, we have finally succeeded in synthesizing some (2gms),. However our yields are not very good and I hesitate to send you the procedure until we have worked a little more with it.

As you may have heard, we are spending almost all of our time now on in vitro synthesis. In the middle of the Summer we succeeded in getting the system working with beta-galactosidase production in S. fragilis. The system is not remarkable, but at least it makes about 100 times as much enzyme as the best preparation reported by Gale. We are at present trying to improve it somewhat and also to resolve it enzymatically and by extraction. In addition to this we also have a system which is much more vigorous with B-megatherium involving the formation of the same enzyme. Here really considerable amounts of enzymes can be formed and I think ultimately this may well provide us with the best system for concentrated study. In both cases it would appear that the enzyme forming mechanism is attached to the cell wall. Elimination of cell wall structure invariably leads to the disappearance of enzyme forming capacity in both systems. We need very much to try to get a similar system with a gram negative. However it doesn't seem probable that we will be able to tackle this seriously for a little while, since we have our hands full with the yeast and the megatherium.

I hope that you will be able to get down here soon, so that we can go over the material. I should like to note that there will be a bunch of people coming here the 28th and 29th of October. There will be some people from St. Louis as well as Cavalli, who is visiting John, in Wisconsin. Novick will probably also come down as will Semour Benzer. If you can arrange to come at about the same time, I think that it would be most profitable.

What happened to tryptazan paper? Where is copy?

Sincerely yours,

S. Spiegelman
Professor of Bacteriology