

15 April 2018

All,

The BIOL 224 lab schedule has been updated ... sort of. It's in the sequence I wanted it in at the beginning of the course.

That said, we're running a "week" behind in lab and we need to get caught up rather quickly. I am, therefore, attaching data, below, for you to work up as a dry lab regarding the potato polyphenol oxidase experiment:

For Students: PPO + Catechol (S) ONLY				For Students: PPO + Catechol + 0.1 M Tyr				For Students: PPO + Catechol + 0.1 M PTU				For Students: PPO + Catechol + 0.1 M tCA			
Tube	[S] (M)	A ₄₈₀		Tube	[S] (M)	A ₄₈₀		Tube	[S] (M)	A ₄₈₀		Tube	[S] (M)	A ₄₈₀	
		30 sec	0 sec			30 sec	0 sec			30 sec	0 sec			30 sec	0 sec
1	0	0.290	0.290	1	0	0.095	0.095	1	0	0.194	0.194	1	0	0.206	0.206
2	0.004399	0.342	0.306	2	0.004399	0.175	0.155157	2	0.004399	0.194	0.176136	2	0.004399	0.305	0.275827
3	0.005579	0.387	0.345	3	0.005579	0.263	0.238996	3	0.005579	0.206	0.185159	3	0.005579	0.274	0.240973
4	0.009334	0.446	0.390	4	0.009334	0.198	0.16298	4	0.009334	0.268	0.240214	4	0.009334	0.387	0.34581
5	0.012034	0.425	0.363	5	0.012034	0.192	0.150656	5	0.012034	0.274	0.242742	5	0.012034	0.396	0.351113
6	0.016931	0.432	0.361	6	0.016931	0.215	0.164543	6	0.016931	0.246	0.210278	6	0.016931	0.482	0.432685
7	0.028552	0.513	0.430	7	0.028552	0.287	0.222277	7	0.028552	0.296	0.254327	7	0.028552	0.347	0.292289
8	0.091028	0.567	0.467	8	0.091028	0.242	0.151766	8	0.091028	0.265	0.214997	8	0.091028	0.593	0.531567

You are to generate **one (1) 1/V vs 1/[S] curve in Excel** that has all of the data in proper Lineweaver-Burke format **for the un-inhibited enzyme plus the three inhibited enzymes**.

The curve you generate should also have the 4 line equations, as well as the R² value for each trend line, in the graph, as well. In order for the curve to work, you'll have to "cast backwards" when formatting the trend line to obtain the X intercept. In addition, complete the following table:

	PPO + Catechol ONLY	PPO + 0.1 M Tyr	PPO + 0.1 M PTU	PPO + 0.1 M tCA
K _M value (M ⁻¹) (L/mol)				
V _{max} (dA/dt) (Absorbance units per minute)				
Type of Inhibitor Based on the Graphs				

This sheet, completed, with your graph printed on the reverse (i.e., turn in ONE sheet of paper!, printed both sides), is due in hard copy form when you walk into lecture, on time, 1 May 2018. Late assignments will NOT be accepted, nor will emailed files.

Dr. C.