Figure 1

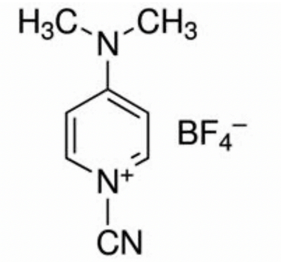


Figure 2

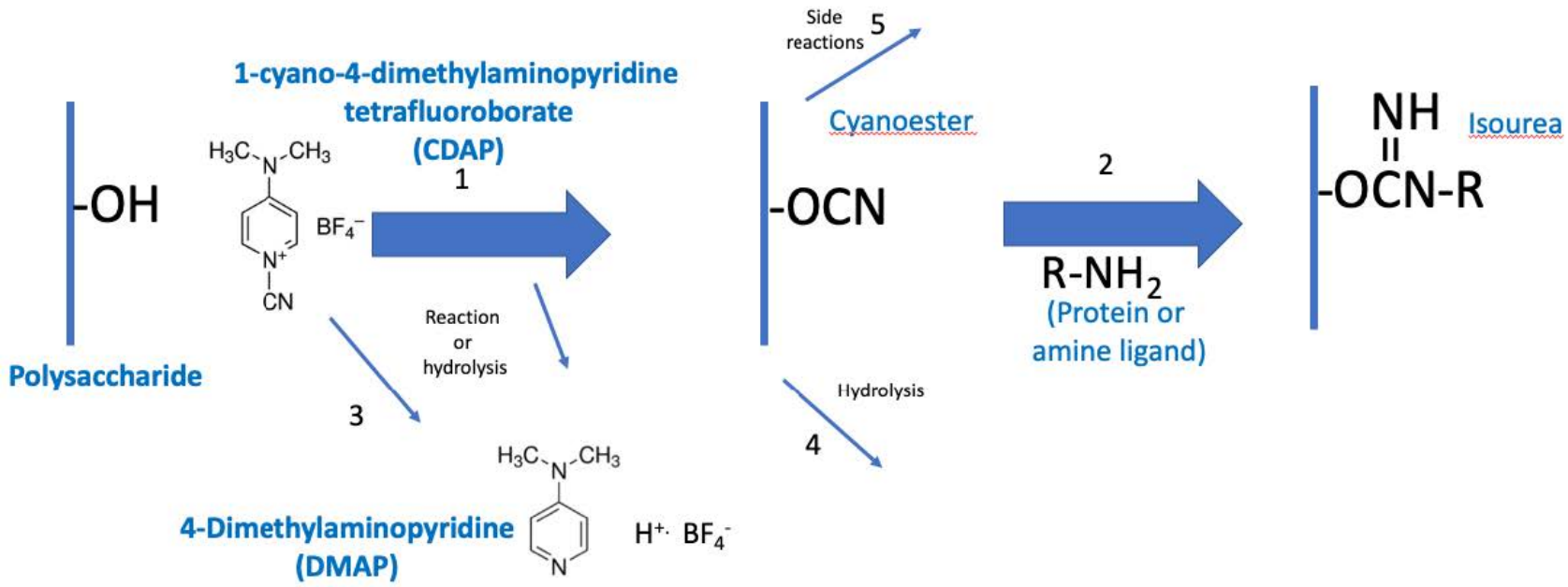
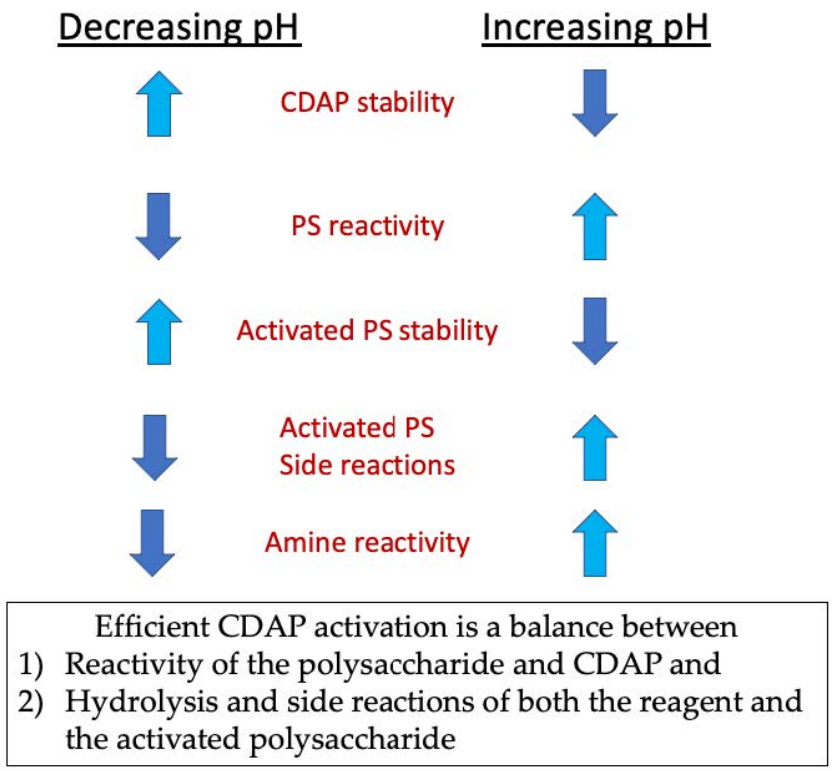

1-cyano-4-dimethylaminopyridine
tetrafluoroborate
(CDAP)
1
-OH
Polysaccharide
Reaction
or
hydrolysis
3
4-Dimethylaminopyridine
(DMAP)
Side
reactions
5
Cyanoester
-OCN
Hydrolysis
4
2
R-NH2
(Protein or
amine ligand)
NH
Isourea
-OCN-R

Figure 3

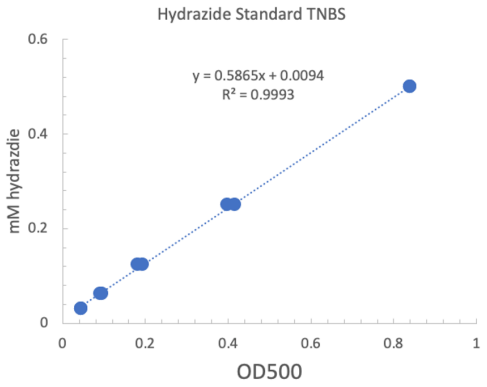


Efficient CDAP activation is a balance between
1) Reactivity of the polysaccharide and CDAP and
2) Hydrolysis and side reactions of both the reagent and the activated polysaccharide

.

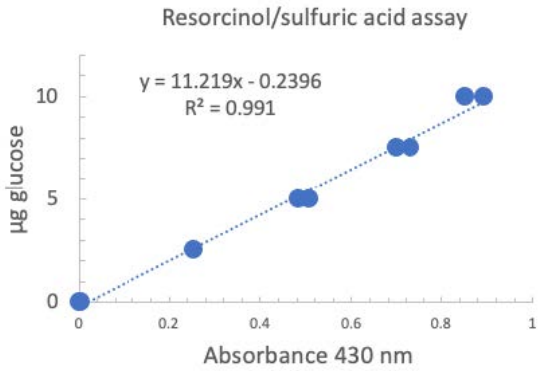
Figure 4

A



		x4	mM Hz
25 µL	OD500	mM Hz	
0.25 mg/mg	0.62	1.492	1.401
	0.529	1.279	
	0.594	1.431	
0.5 mg/mg	0.805	1.926	1.947
	0.81	1.938	
	0.827	1.978	

B



dilute 1:100		glucose	Average	Dextran
100 µL	OD430	mg/mL	mg/mL	µM/100 kDa
0.25 mg/mg	0.581	6.28	6.07	60.7
	0.563	6.08		
	0.542	5.84		
0.5 mg/mg	0.516	5.55	5.47	54.7
	0.502	5.39		
	0.508	5.46		

C

			100 kDa dex		
mg CDAP/mg dextran		µM Hz	µM dextran	Hz/100 kDa	%wgt/wgt
0.25 mg/mg		1401	60.7	23.1	4.02
0.5 mg/mg		1947	54.7	35.6	6.19