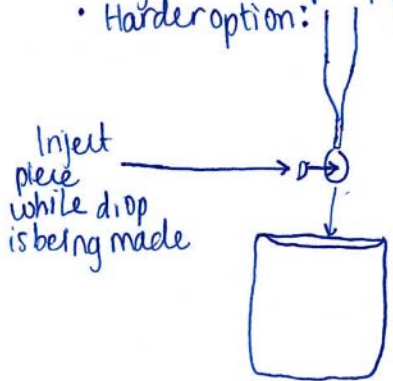


EXP. NUMBER	EXPERIMENT/SUBJECT Making PLA Beads	DATE 2/2/2020	100
NAME Research Student	LAB PARTNER	LOCKER/DESK NO.	COURSE & SECTION NO.

note- largest nozzle size is ID 1.3mm or 1300µm

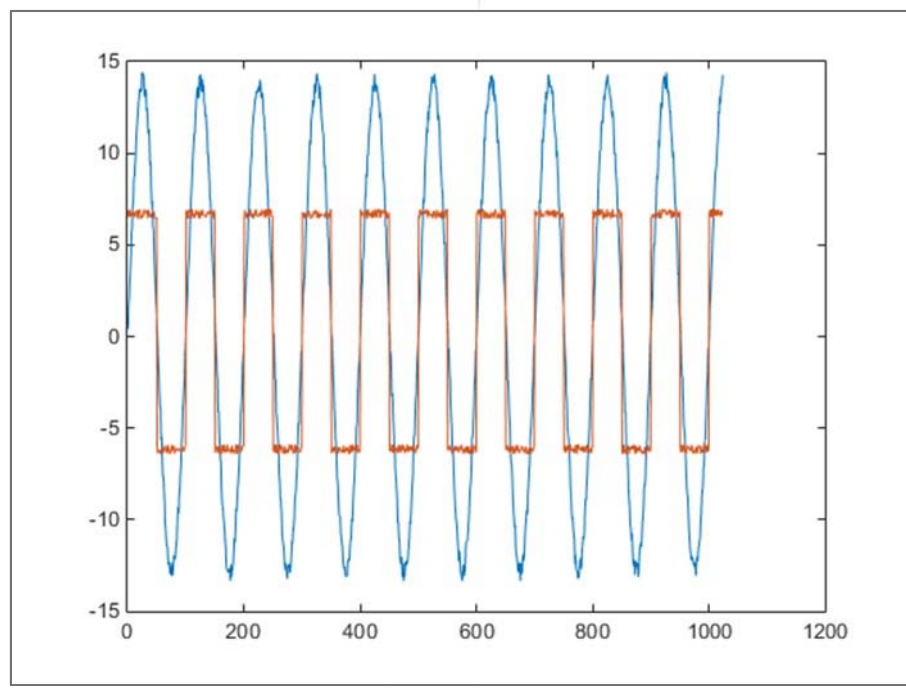
Problems

- mixture was not feeding through .4mm nozzle... opps, didn't think about that ceramic pieces more dense than 1.5% alginate & sink to bottom
- options:
 - Get larger nozzle w/ ID 1.3mm, but that will produce larger beads as well
 - Buy tricalcium phosphate powder or smaller ceramic pieces (nanoparticles)
 - Harder option: (TCP)



100-300µm : 7/14/16
from
[unclear] Adv. [unclear] [unclear]

- Grind up ceramic pieces before mixing



SIGNATURE Research Student	DATE 2/2/2020	WITNESS/TA	DATE 2/3/2020
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EXP. NUMBER	EXPERIMENT/SUBJECT	DATE 1/30/2020	100
NAME Research Student	LAB PARTNER	LOCKER/DESK NO.	COURSE & SECTION NO.

Alginate + $CaCl_2$ hardening solution

1.4% alginate, 10mL
10mL DI water
.14g alginate

Insert stir bar and heat at 55°C for 10min covered w/ parafilm

200mL 1.5% $CaCl_2$ stir 200mL DI water and 3g $CaCl_2$ in a beaker

Amount of Salt /mol L ⁻¹	Time Taken for Hypocyt to Form / hr (\pm 6 hrs)				
	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
0.000	24	24	36	36	36
0.017	36	36	36	36	36
0.034	36	36	36	48	48
0.051	36	36	48	48	48
0.068	48	48	48	48	60

[$CaCl_2$ was poured into big basin & overflowed into larger basin - when liquid filled to top, 2int stirbar was turned on

5kV setting & agitator at 25%, .5mm OD needle was used, top bar positioned to 9.75cm manually fed alginate through hose, then turned on syringe pump 10mL/hr, 5mL 100 @ when beads are deposited, wait 20min for beads to fully set up before putting them in storage solution: .05M $CaCl_2$

top bar positioned to 9.5

2nd exp.

same setup protocol except distance between tip of needle & solution was ~~10cm~~ changed.

.5mm OD needle, 10mL/hr, 4mL loaded in syringe, 6kV
After completion, beads were put in .05M $CaCl_2$ storage solution

conclusion

5kV & 6kV beads were examined on a slide & pictures were taken and measured on 4x objective.

SIGNATURE Research Student	DATE 2/2/2020	WITNESS/TA Another Student	DATE 2/3/2020
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