Par measurements

11%
13.35
11.65
12.55
2am in= 12 hour dark exposure for thalli-par(13 hours snd 48 minutes)
3:48pm wednesday in to the par
Friday at 3:48 am we switch to moderate
par
3:48am August 8 36 hours in,
Par light set to 35%
Before par = 13 hours 45 mins dark
Turning on first set of par 3:48 pm
Air humidity-81.6
Air temp 2.2 degrees
3:48am August 8 36 hours in,
Par light set to 35%
5:27pm
Air humidity-79.7
Air temp- 5.2 degrees celcius
Water 1ml each
2:48pm August 9
Air temp - 4.9 degrees
Air humidity - 80.5%
Par off 4:16pm August 10
1ml of water given to each
Treatment 6 removed from column 10 and placed under uv table
UV A on at 4:18pm-24 hour cycle begins
UV B on at 4:18pm. 64minute cycle begins
Clock indicates 96 hours of pre cycle in total on ipad.
Air temp- 4.9 degrees
Air humidity - 82.2%
August 11
UVB on 4:18pm
Give 1 ml AFTER UVB TIME
Air temp- 5.3 degrees
Air humidity- 82.1%
UVB off at 5:24pm
August 12
Photo pre taken of uv exposed and control
UVB on at 4:18
Air temp- 4.6
Air humidity - 80.4
UVB turned off at 5:22

1ml given to uv exposed
None given to control(sheen)
August 13
Photo taken pre uv
Uvb on 4:18
Uvb off 5:22
1ml to uv exposed
0.5ml to control
Air temp- 2.7
Air humidity - 82%
Photo taken post
August 14
Uvb on 4:18
Uvb off 5:22
Air temp- 4.6
Air humidity 81.4
Pre photos taken
1ml given to control
1ml given to uv dosed
August 15
Usb on 4:20
Uvb off 5:24
Air temp 2.2
Air humidity 82.4
Pre and post photos taken
1 ml given to control
1 ml given to uv exposed
Dessication ij control apparent, uv exposed far away seem si*ificantly more moist.than close to uv samples
August 16
UVB on 4:18
UVB off 5:22
Air temp 3.1
Humidity 81.8%
Pre and post photos taken
0.5 ml given only to first row uv exposed
Only the outlying square of control given 0.5
All rest were with sheen and moist water pool
August 17
Air temp 2.6
Air humidity 74.0
UVB on 418
UVB off 522

No water to control 0.5ml selectively given to uv exposed based on moisture - if dry 0.5, if sheen and moist 0ml. Last row received no water.
This is the last day of watering and exposure

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August 18
UVa off at 9:14 am
Final temp 4.0 degrees
Final humidity 79.8
Final photos taken
Bacteria into -80 at 11:29am
Freeze drier warm up at 12:03pm
Trays in freezer at 12:20pm
Start main drying test at 12:43pm
-80 into dry ice at 2:01pm
Samples out of dry ice at 2:28pm for weighing includes weight of vial
Emty vial - 13.026 no tape or label yes lid
12.9854
13.131
12.866

1. Scytonemin — Stored Set

Treatment 1
- D 13.524
- F 13.401
- G 13.086
- I 13.220
- J 13.810

Treatment 2
- B 13.398
- E 13.469
- G 13.195
- I 13.407
- J 13.227

Treatment 3
- A 13.638
- C 13.472
- D 13.739
- E 13.878
- H 13.141

Treatment 4
- A 13.666
- B 13.569

F 13.245
G 13.468
H 13.959

Treatment 5
B 13.888
D 13.759
E 13.868
F 14.125
I 13.524

Treatment 6 (Control)
C 13.476
D 13.303
F 13.382
H 13.427
J 12.9934

2. Porphyra-334 — Stored Set

Treatment 1
D 13.317
F 13.142
G 13.170
I 13.696
J 13.226

Treatment 2
B 13.295
E 13.397
G 13.0818
I 13.0988
J 13.3481

Treatment 3
A 14.263
C 13.8515
D 13.9112
E 13.6141
H 13.4074

Treatment 4
A 13.432
B 13.723
F 13.846
G 13.4050
H 13.6542

Treatment 5
B 13.4999

D 13.5043
E 13.3769
F 13.8908
I 13.8738

Treatment 6 (Control)
C 13.1402
D 13.4887
F 13.475
H 13.446
J 13.289

Trays removed from freezer at 3:02 pm
Bacteria put in at 3:06pm Cyanobacteria program
4:12 remove spectroscopy bacteria from dark room and into transport- still in the 0 degree room
At terraluma 5:16 - note. We have 2 calibration panels not 4, i found a 5% as well. We should use the data from china to determine the exact reflectance of the 2 panels in our region of interest so we can standardize.
Xenon warmed up for 25 minutes
Integration times for calibrated 6% didn't work… too bright-makes tiny tiny reflectance for bacteria
Troubleshooted and started again at 10:38pm
250 darks - integration time 665370 us
25 minute warm up
Make note of 5G which was damaged in transit
Observations: perhaps the farther away from source (less potent) signals could be seen more clearly if the sensor was closer to the sample
Lamp off for a couple of hours. I finished treatment 3 and then got coffee around 8 am after an hour of sleep.
Lamp is warming up for 25 minutes
Treatment 4 beginning
REMEBER TO TAKE A PHOTO OF THE SETUP FOR A CONCEPTUAL DRAWING! Good lighting required!
12:53pm process for removing samples from freeze driar begins
Sample weighing 1:57 pm

1. Scytonemin — Stored Set

Treatment 1
D 13.173
F 13.175
G 13.0281
I 12.9412
J 13.0826

Treatment 2
B 13.0516
E 13.1291

G 13.1039
I 13.2820
J 13.028
Treatment 3
A 13.2522
C 13.0163
D 13.189
E 13.1978
H 12.9739
Treatment 4
A 13.136
B 13.011
F 12.829
G 13.060
H 13.251
Treatment 5
B 13.334
D 13.180
E 13.286
F 13.250
I 12.990
Treatment 6 (Control)
C 13.186
D 12.954
F 13.080
H 13.182
J 12.933

2. Porphyra-334 — Stored Set

Treatment 1
D 12.991
F 13.049
G 13.049
I 13.419
J 13.014
Treatment 2
B 13.0167
E 13.1501
G 13.006
I 13.0066
J 13.1682
Treatment 3
A 13.161

C 13.1926
D 13.1527
E 13.0536
H 12.9352

Treatment 4
A 12.9418
B 13.3463
F 13.3076
G 13.1356
H 13.0261

Treatment 5
B 13.1227
D 13.103
E 12.890
F 13.054
I 13.321

Treatment 6 (Control)
C 12.929
D 13.155
F 13.271
H 13.110
J 13.178

Transported via dried ice and stored in -80 at 2:50pm
Spectroscopy commences: details elsewhere-
25 minute lamp warmup
Lamp off again 7:02pm
Warm up for 25 starting again at 8:28
Done 11:25
HPLC pre-process: 25/8/2025
Glassware in acid wash 10% Hcl at 5:00pm
Glassware flipped 6:22 August 26
Glassware drying in laminar at 11:13 am August 27
Glassware out August 29-
New batch placed in 9:15am
Same settings used :program 2: overnight bake 12 hours at 400
Glassware out at 3:00pm over done 30 August , 2025
First 10 samples removed from -80 at 445pm. Each vial placed in a ziplock bag to prevent humidity buildup. Left bench top to allow time for temperature pf vials to reach the room 60 minutes left. Then dry weight - vial to weigh boat - Amber vial
2I: 0.087g
2J: 0.065g
1D:0.072g
1F: 0.094g
1J: 0.080g

3D: 0.069g
3A: 0.043g
3H: 0.052g
3E: 0.080g
2B: 0.080g
Sonicated samples are on shaking rack at 7:09 pm . August 30. Air temp- 4.2 degrees
Rpm - 50
Removed t 1:15pm august 31
1D is destroyed, shattered.
Supernatent extract successful for all others. 1D liquid still taken from bottom of centrifuge basket(likely contaminated, we will make a note and test still..)
Sonicate 2 starting at 4:08pm
In shaker 50rpm
Time 4:27pm
Air temp is 4 degrees celcius
Operation rescue the og batch…
We decided to not risk the use of the glass amber vials and their glass stoppers. After the two casualties and the death of replciate 1D… re went with a borosilicate pyrex glass vial and a ptfe lined cap… this does comprimise our plastic free workflow but i decided to risk the plastic contamination as opposed to further sample losses..
We have jjust washed the vials and the ptfe lined caps(interiors) with tripple wash of our acetic acid, methanol, ethyl acetate solvent mix. 1ml in each shake for 37 seconds, pour out, repeat 3 times. They are drying now starting at 4:27pm. The plan is that after they are dried we will carefully as possible transefer the thalli pellet from the shaker table and the solvent into this new vial and use that in the centrifuge. All future bacthes will then use these new style of value and no longer the amber vial. We will be standardizing to the shaker table time however and as such, this will mean almost 24 hours for each, which is unfortunate for timing, but such is life. I will also proceed with a third extraction pass.but this third one will be shorter is the plan. I will then put the supernatent overnight until tomorrow mornign when i will 1, start the rotary evaporator, and 2, begin extraction of the next batch

- both can be done simultaneously,

One complication in this is the transfer to the new vials which may amount to some loss and be a confounding variable in our experiemnt. Unfortunate indeed. We will also need to figure out how to get our pellet transfered effectively. Given its shape and structure and the reduced diameter of the new vials, this may prove difficult indeed.
Og batch remived at 5:53 pm sptermber 1, to attempt transfer into new vials.
Batch in sonicator at 8:13pm
8:31 pm batch on 50rpm shaker in cooler box. Air temp 4.7 degrees celcius
Off shaker at 12:30pm
Decanting done, superb stent collected, now stored in 4 degree fridge until tomorrow for the rotary evaporation. Time now is 1:11am
4:35
First rotary evaporation - water bath set to 45 degrees celcius. , rotations of the rotrary evaporator aare close to maximum, but a little under.

Sample 3E is first
Paused at 6:10 still not done
New glassware set in oven program 2 at 6:11pm
We will count how many transfers into the proper vial. Then transfer one of them into another for the acetone. Use that proportion. 2mL max is to be used
3E:
200 uL saved seperate meaning 1.8mL in vial
Give or take a bit given we are going to near dryness…
We have decided to put it back into the same vial and do a nitrogen blowdown for later resuspending.
Now 3H
Now 2J in progresss
Removing second batch of thalli from fridge: 3:48pm September 3
We will wait 60 minutes for acclimatisation
We are setting up 1J in the rotary evaporator at 4:54pm
I am now weighing out the new samples
4B-0.071g
4H-0.070g
1I- 0.074g
5F- 0.068g
6F- 0.077g
4A- 0.070g
1G- 0.081g
2G- 0.081g
2E- 0.073g
3C- 0.074g
Samoles weighed now adding solvent
1J not finished. Removing until tomorrow
Air temp 3.3 degrees
Batch 2 on shaker table 6:50pm
All round bottom vials transferred to -20 freezer for storage. Extract is also stored there.
9:51am September 4, putting 1J back on the evaporator.
!J is now done at 12:25pm september fourth. Now putting 2I onto the rotary evaporator.
Batch 2 is off the shaker table at 12:50pm September 4th. I am now taking them for centrifuging!
In somicator for 10mins at 2:43 pm
We reran the sonicator for an extra 4 minutes out of paranoia that something happened.
Pass 2
In shaker table 3:03 pm. Air temp 3.6 degrees
September 5th
2B going into roto- evap at 9:42am
2B paused at 11:15am back in -20 degree
2B back in rotary evaporator at 12:15pm
Batch 2 pass 2 removed from shaker 4:37pm septemeber 5. I am now weighing and preparing for centrifuge
Batch 2 is in dominator at 6pm for 10 mins

Batch 2 is on shaker table for pass 3 at 6:15pm
2B done 8:35pm
Taking batch 2 off shaker from pass 3 10:57pm
Batch 2 done and in -20 11:45 pm
The fucked up (spilled) 1D is on the rotary evaporator at 10:42am September 8th
3D is now in at 11:27am
1F is in September 9 10:26am
September , 12:45pm
4B is in
New technicuqe with higher vaccum is to be used after discussion with David. The time per sample shouldnt be hours. It should be on a scale of minutes
4H on at 4:20pm
6F done 5:14
5F done 5:43
4A done 6:08
1I done 6:49
1G done
2G done 11:01am sep11
3C done 11:36am
2E
Just as a reminder for myself the rotary evaporator is a Buchi Rotavapor R-114 R-124. The round bottom flasks used are 100ml Duran
We now need to do our final batch of 10. I am putting a load of glass into the oven after DI water wash. Then will rinse with methanol
Glass out saturday the 13th. Removing final 10 + extra 1D from -80 at 2:04pm thaw for an hour
Final batch
1D =0.060g
4G =0.062g
6C = 0.074g
6H =0.046g
5E =0.079g
5D =0.072g
4F =0.080g
5B =0.068g
6D =0.071g
6J =0.071g
5I =0.058g
Now solvent put in 8ml each
Out of sonicator 4:36pm
Into 50rpm shaker 4:40pm
Air temp 3.5 degrees celcius
Remove at 10:46am = 18 hours and 6 minute pass
Removed at 10:59 from shaker. Now measuring for centrifuge
Basket with 6C, 4G, 1D is 230.898g

Basket with 6H, 5E, 5D is 230.915g
Basket with 4F, 5B, 6D is 230.725g
Basket with 6J, 5I, blank is 230.806g
In centrifuge at 11:10am
Into sonicator and now going back into shaking bath at 12:16pm
Air temp 3.9 degrees
18hour extraction. Coming out at 6:16am September 15.
I
Batch 3 removed from shaking tsble at 6:45am spetemeber 15.
Now weighing for centrifuge
In shaker table 8:02am for last extraction pass-4 hours
Air temp- 4 degrees celcius
Removed from shaker table at 4:42pm oops.. thst was a 8 hour almost 9 hour extraction instead of the proposed 4.
Doing the measurments for centrifuge basket
Basket with 6H, 6D, 5B is 231.876
Basket with 5E, 5D, 6C is 233.767
Basket with 6J, 5I, 4G is 231.532
Basket with 4F, 1D, and blank is 233.438
Centrifufed.. transfered.
Now extrzctimg from 6:09p,:
5I done
6H done
6C done
6J done
5E done
4G done
5D done
6D done
1D done
4F done
5B done