

growth_curves_checkpoint

July 19, 2022

0.1 96 well raw data growth experiment analysis

<IPython.core.display.Javascript object>

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1 Raw data file parsing and virtual plate layout creation

Plate ID is: Plate 1

Time interval is: 10.0 minutes

The time difference between [359.55] and [1029.55]is: 670.0 minutes

The number of missing time points for the whole plate is: 67.0

Zero values measured:

No zero values detected for the samples on the plate

Blank progression:

NC_NB:

NC_NB A4 didn't show growth

NC_NB A5 didn't show growth

NC_NB A6 didn't show growth

NC_TSB:

NC_TSB B4 didn't show growth

NC_TSB B5 didn't show growth

NC_TSB B6 didn't show growth

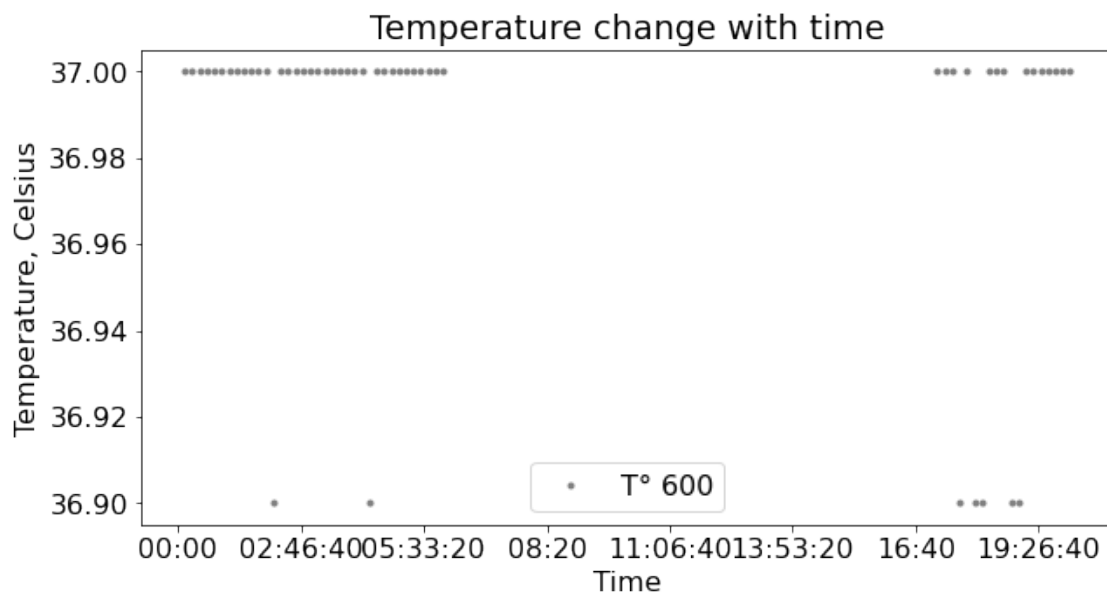
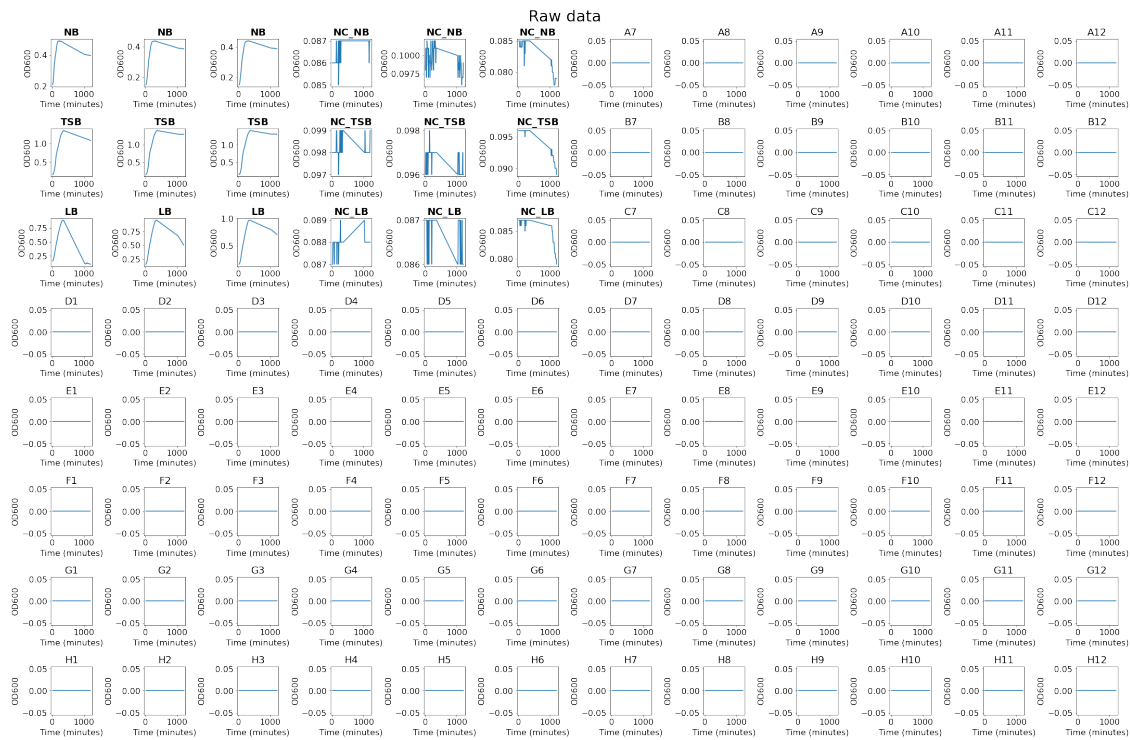
NC_LB:

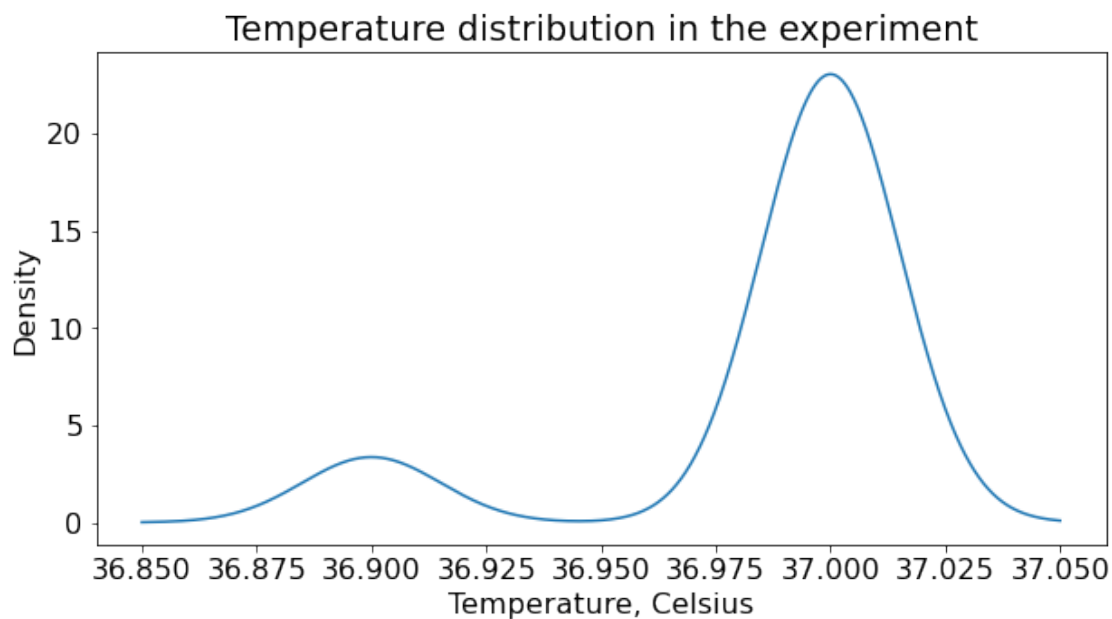
NC_LB C4 didn't show growth

NC_LB C5 didn't show growth

NC_LB C6 didn't show growth

2 Plate raw data overview



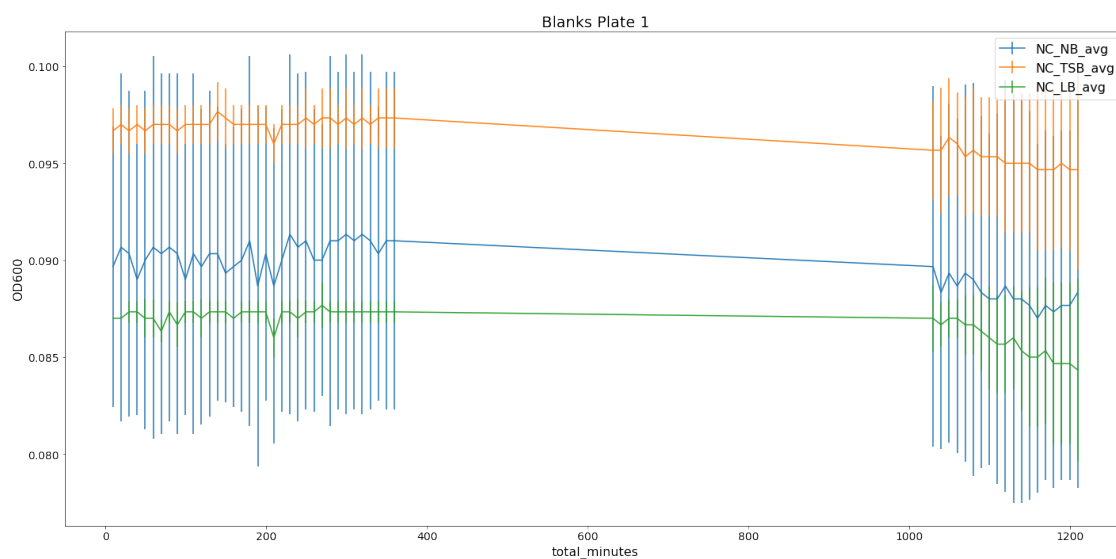


3 Blank subtraction

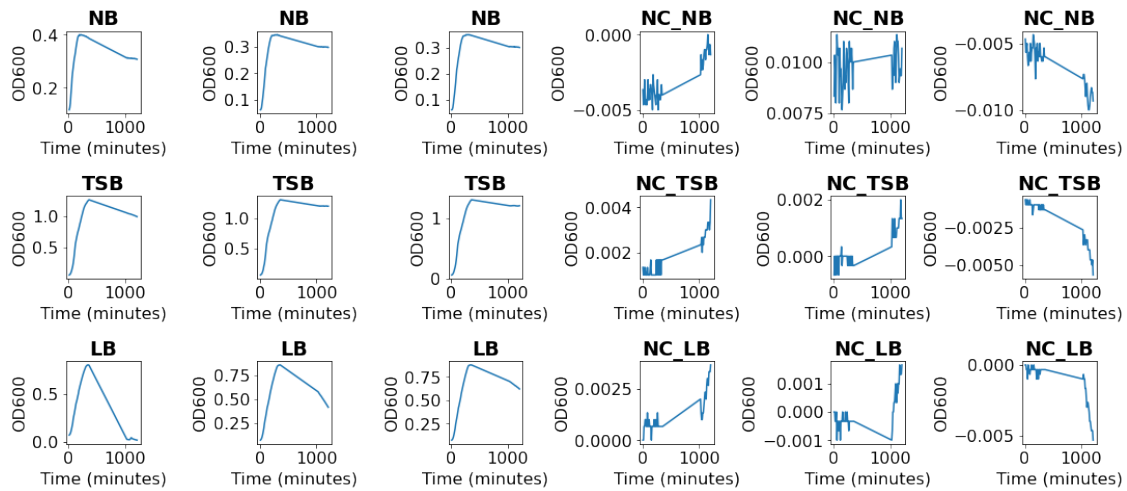
After reading the plate, identify samples by loading a sample file

55it [00:00, 3048.67it/s]

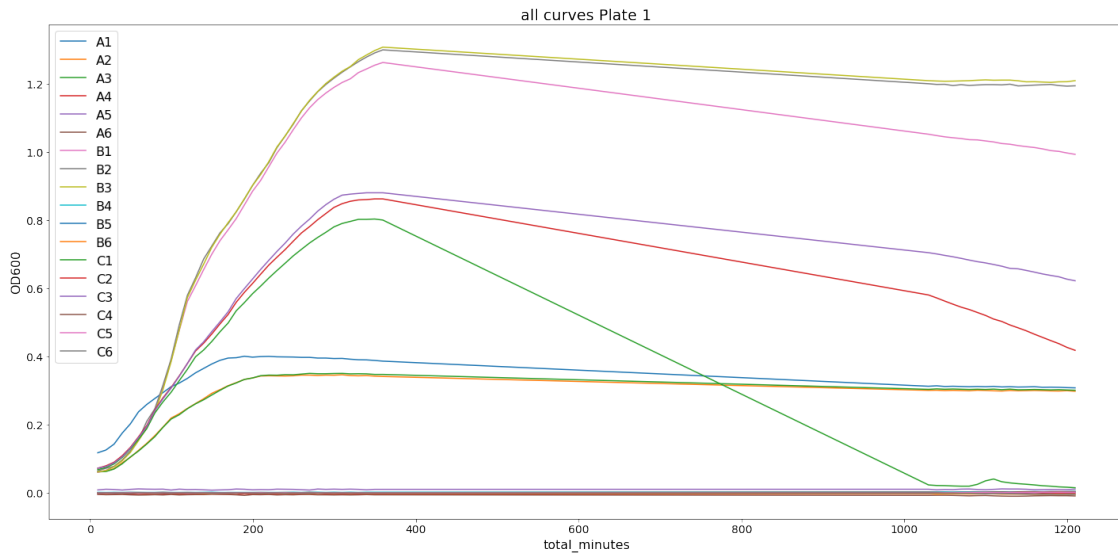
<Figure size 432x288 with 0 Axes>



Raw data after blank



<Figure size 432x288 with 0 Axes>



4 Add log2 values

Growth/no growth report:

NB:

A1: Growth

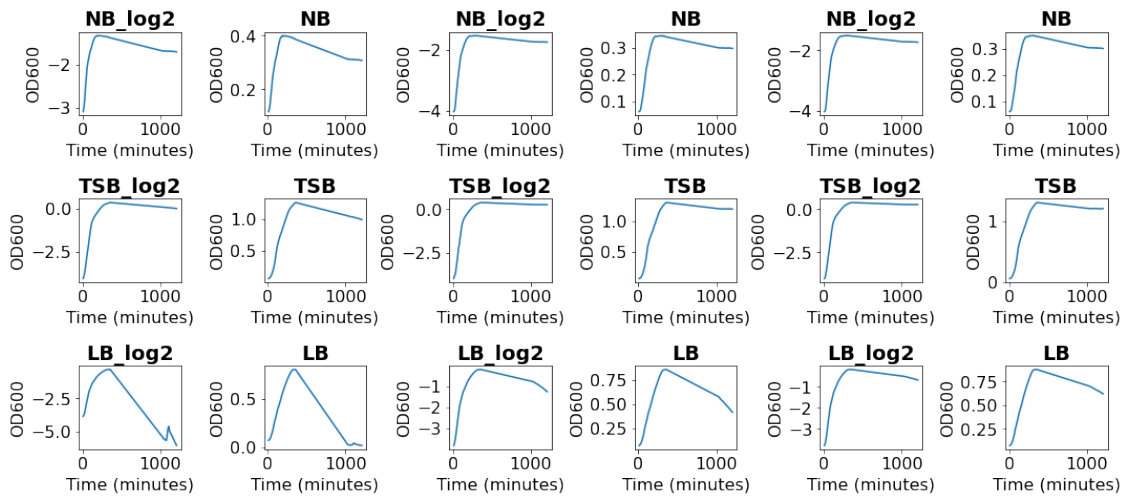
A2: Growth

A3: Growth

TSB:

B1: Growth
 B2: Growth
 B3: Growth
 LB:
 C1: Growth
 C2: Growth
 C3: Growth

Raw and log2 after blank



5 Get metrics for all the sample wells curves

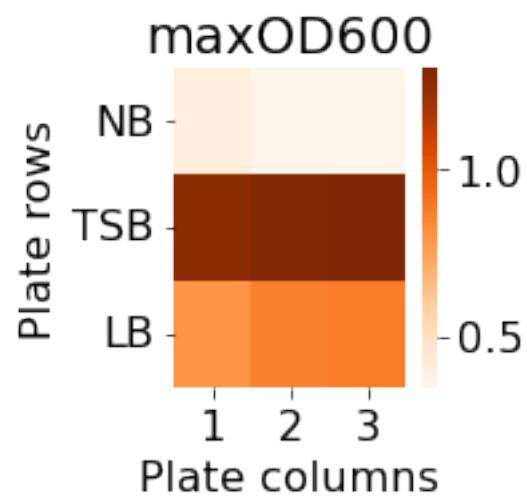
```
[13]: sample_name well plate_id maxOD600 Maximum_slope Doubling_time \
0      NB      A1  Plate 1  0.400333      0.025085      39.863905
1      NB      A2  Plate 1  0.346000      0.023807      42.003657
2      NB      A3  Plate 1  0.350000      0.022113      45.222373
3      TSB     B1  Plate 1  1.261667      0.034028      29.387500
4      TSB     B2  Plate 1  1.298667      0.038634      25.883756
5      TSB     B3  Plate 1  1.306667      0.034811      28.726583
6      LB      C1  Plate 1  0.802667      0.029941      33.399438
7      LB      C2  Plate 1  0.861667      0.029689      33.682148
8      LB      C3  Plate 1  0.879667      0.030824      32.442596

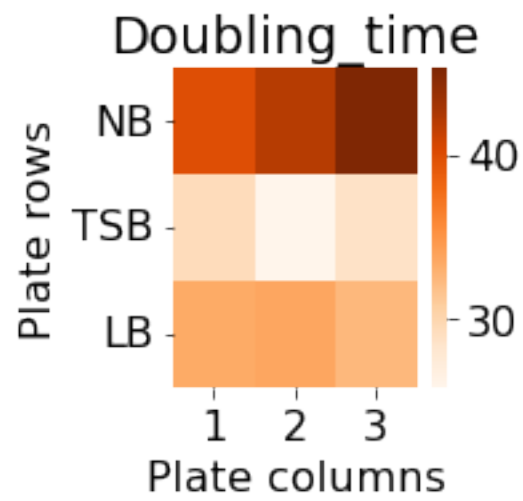
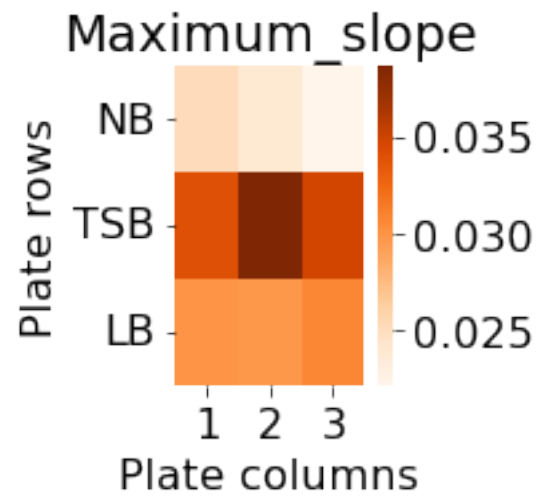
Time_to_reach_maxOD600_(minutes) Maximum_slope_OD \
0      189.55      0.202000
1      309.55      0.144667
2      269.55      0.142667
3      359.55      0.309333
4      359.55      0.209000
5      359.55      0.384000
```

6	349.55	0.157000
7	349.55	0.164000
8	339.55	0.162000

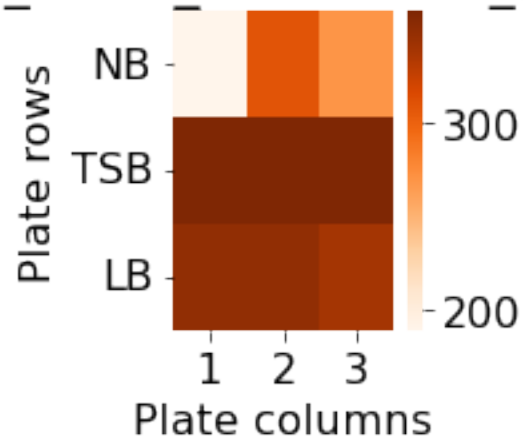
	Time_to_reach_max_slope_(minutes)
0	49.55
1	69.55
2	69.55
3	89.55
4	69.55
5	99.55
6	59.55
7	59.55
8	59.55

6 Plot the plate in a per metric look for column selection

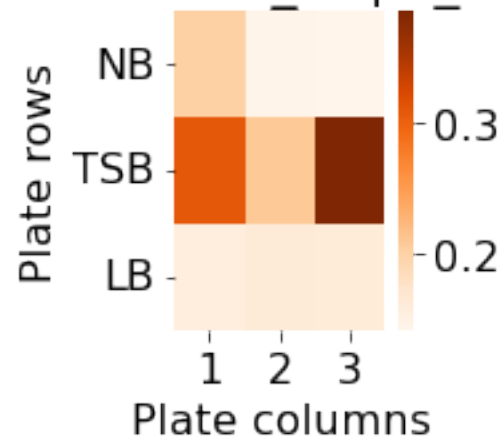




Time_to_reach_maxOD600_(minutes)



Maximum_slope_OD



Time_to_reach_max_slope_(minutes)

