Notes for Conversation with Seline

July 28, 2022

Met with Seline July 29, 2022 via Teams

Notes from meeting in green

# Notes regarding color changes in well

The upshot: I initially thought this didn’t matter that much, but Tim is thinking maybe we should set wllq to 0 where the media changed color.

If the color in the final MEA plate was unaffected, then Tim says it's probably okay (meaning that the buffer in the media was sufficient to balance out the pH).

If just a few of the concentrations in the MEA plate had a color change, then Tim is tempted to say that we should set the wllq to 0 for those wells.

If the color is changed for all concentrations tested in the MEA plate, then… we'll need to follow up.

In general, if there is a color change, it will be most noticeable at the highest concentrations tested, then will gradually decrease at the lower concentrations.

In some cases, the color of the compound itself is a different color. In other cases, it might have changed color due to an effect on the pH.

**7126 A9 (20210915, G2)**

Note in lab notebook:

7126 A9 "\*When mixed with media, change into yellow color"

Note in README:

“7126 A9 turns the media yellow - may be acidic”

So is this saying that the color was yellow in the final MEA plate?

Any idea if this would have been all concentrations, or just some concentrations?

* This is probably pH, because the color change happened after the compound mixed with media.
* Seline thinks the data is still usable, because changing the pH would just be part of the trait of the compound.

**7126 B12 (20210929, G4)**

Note in lab notebook:

”\*yellow”. (not sure if this associated with a particular column, or which if MEA plate versus dilution or dosing plate).

Note in README:

“Chemical 7126 B12 is yellow in color.”

Again… any idea if this in final MEA plate, or the dosing plate?

All concentrations, or just some?

* This compound itself is yellow! So there was probably no affect on the pH

**20220330 (G19 3 chemicals noted to be colored)**

Lab notebook:

On Dilution Plate Preparation sheet:

Chemical 1 - noted to be brown

Chemical 2 - noted to be amber

Chemical 3 - noted to be lt amber

Chemicals 4 & 5 (Acetamenophin and Bisphenal A) - noted to be clear colorless

Chemicals 1-3:

|  |
| --- |
| *9163 B6* |
| *9163 B7* |
| *9163 B8* |

Do we think this affected final MEA plate, or just the dosing plate?

All conc’s or just some?

* Just because compound was colored
* Most the compounds beginning with 9163 are plant extracts. Almost all were colored.
* The concentrations of the compounds are fairly low, so colored compounds are not usually going to change the color of the entire well in the Media.
  + You can’t really see any color changes in the MEA plate anyhow, because it’s not clear!

# Regarding precipitate observation

(case #s based on table I send to Tim July 28, 2022)

Blue = I think I already know what to do

**Case #1:**

3 treatments that for which precipitate was noted in first culture, but not in second culture. Can we be confident that there was no precipitate in second culture? (i.e., did Seline just not take note of it the second time?)

7126 A12 = initially tested 20210915, retested in 20220601. \*\*Was retested at a lower concentration in 20220601, so it makes sense that no / very little precipitate would have been observed!

7126 A3 = initially tested in 20210915, retestedin 20220330. Note in lab notebook for this culture indicates that no precipitate was observed!

7126 B11 = initially tested in 20210929, rested in 20220601. \*\*Was retested at a lower concentration in 20220601, so it makes sense that no / very little precipitate would have been observed!

Cool, I already have confirmation in all cases!!

**Case #2:**

2 treatments were noted to precipitate or drop out of solution, but were not retested. Tim is saying that we should set wllq to 0 where precipitate was observed.

7126 A11 (20210915, G2**)** -> lab notebook “dropped out of solution”. Was this for all concentrations?

7126 B11 (20210929, G4) -> again, note says “precipitates in media.” All concentrations?

There was probably only precipitate at the highest, or the highest and the second highest concentrations.

MEA classic plate -> you can’t really see the bottom! You can’t really see the precipitate unless it’s really concentrated.

Seline: I don’t want to say it’s completely precipitate free in the middle to low conc’s [because there may be some precipitate, just not enough to see!]

But if precipitate is apparent at the highest concentrations, then there is definitely something there.

I suggested that we just eliminate the top 2 highest concentrations for these compounds. Seline thought that would probably be okay.

**Case #3-4**

Precipitate observed for the top few conc’s tested -> I think I know what to do here

**Case #5**

4 treatments from 20211110 noted to have precipitate at top 1-2 highest conc’s tested (in media, but not when in incubator). These treatments were rested, because of they were noisy, in 20220615 at the same conc range. No precipitate was noted… but since same conc range was used, do you think most likely there was still some precipitate present?

Seline:

When she first started the culture, she used this dilution approach:

5uM -> 95, then 10 -> 500 in MEA well

Then in starting sometime last year (e.g. Groups 5 and 6, or 7 and 8):

5 -> 500 uL of Media, then 50 -> 450 in MEA well

She changed to this dilution approach for all chemicals when they realized that precipitate was a common issue.

This approach also made it less obvious if there was any precipitate (because first step dissolved 5uL of treatment in 500uL instead of 95).

They also put the dilution in a centrifuge in the incubator it check if the treatments were able to dissolve in the Media when at 37 C.

So there were definitely some cases where the treatment did dissolve in the incubator, but not in the dosing/dilution plate (because the hood isn’t as warm as the incubator).

So we both agreed we’ll have to ask Tim about these cases – if the chemical effects were physical, because precipitated when dosed, or if we can say the chemical was present, because dissolved when in incubator?

Me summary: since a different dilution approach was used, it seems reasonable to me that no precipitate formed for these compounds in the later culture.

# Me to do:

* If Tim still thinks we should change the wllq for the compound that was truly acidic -> do that.
* Possibly set wllq to 0 for 7126 A11 (20210915, G2**)** and 7126 B11 (20210929, G4) at the top 2 highest concentrations tested
* Where precipitate observed for the top 2 conc’s -> but not in incubator or in the well, waiting to hear from Tim if set wllq to 0

How to implement these wllq updates, options:

* Implement in wllq notes table
* Implement at the end of run\_me… ya, one of those