FILES FOR PROCESSING:

1
Microarray processing template.xlsm
Notes:
'Save As …' when processing new data to keep template file unmodified
NEVER use '/' in this file to avoid errors in processing
Short cuts: Ctrl+h to go to 'block list' sheet
Ctrl+y to go to 'parameter' sheet

2
probe list.xlsx
Make for a particular printing session, showing:
Column A - sample position (in 96-well or 384-well plate) for the printer
Column B - sample name

3
field file printer.fld
This is the printer's field file from a particular printing session

4
block list.xlsx
Make for a particular assay/scanning set-up, showing:
Column A - Block # (array number)
Column B - Substrate (assay identification)
Column C - Conc (concentration substrate)
Column D - Note (if any)

5
results data file scanner.txt
This is the scanner's final results file with scanning conditions and all raw data

Note:
This template is designed for the the Scienion S3, which only has the option to have the glass slides' orientation as landscape (with the barcode at the right side) on the platform of the printer.
The Scienion S5 has as orientation possibility both landscape and portrait. We are not sure if the portrait position will work with this template set-up, so for now place them in the landscape position.

SET-UP OF PRINTING SPECIFICS

Open template file (enable macros 2x and click in yellow row Security Warning ‘Enable Content’

Go to sheet ‘probe list’

Copy-paste from your own probe list.xlsx columns A and B into the template sheet ‘probe list’ (ignore FALSE-FALSE entries in columns C and D or delete them)

Go to sheet ‘convert sample’

Click on ‘Check Probe List’ to make sure there are no errors (duplicates) in well positions or compound numbers – if there is an error message, go back to the ‘probe list’ sheet to correct

Enter Print Date

Click on ‘Import Field File’ and import the field file printer.fld (if you get message that ‘Worksheet field already exist’, either make sure it is the correct one or delete first the sheet ‘position_spotter’ and then import the correct one)

Go to sheet ‘position_spotter’

Here you see the whole printing pattern with sample names of 1 array/block (with all blocks being the same)

If you want to exclude certain samples from the processing (for example biotin corners) you can delete them here

Go to sheet ‘convert sample’

Leave ‘Cleanup(Y/N)’ on Y

Enter ‘# of replicates’

Click on ‘Sample Info’ (if new: first Reset) GIVES ERROR MESSAGE IN MAC

Check ‘in spotter’ values, but don’t change these numbers manually

Click on ‘Transfer value to Parameter’ and values are put into new sheet ‘parameter’

THE TEMPLATE IS NOW READY FOR A SPECIFIC PRINTING SESSION
YOU CAN SAVE THIS AS A NEW TEMPLATE FOR MULTIPLE USE

SET-UP OF SCANNING SPECIFICS

Go to sheet ‘block list’
Copy-paste from your own block list.xlsx columns A-D into the template sheet ‘block list’
Enter Date and Barcode in orange field

Go to sheet ‘parameter’
STEP 1
Click on ‘Import Raw Data’ and import the results data file.txt from the scanner and values are put into new sheet ‘raw data’

Go to sheet ‘raw data’
Make sure that:
Row 33 = the title row of the data
Column A = Flags
Column D = Block
Column E = Column
Column F = Row

Go to sheet ‘parameter’
STEP 2
Check Block, Row, Column, and Replicate numbers

Make sure that the correct columns are entered for:
Column of Data in raw file = F635 Total Intensity
Background-Median = B635 Mean
Aera of Signal = F Pixels

Check date and Barcode taken from Block list

use block list? (Y/N) – Y

manually remove blank? - N

STEP 3
Click on ‘Process All’
OR
Click on ‘1. Process raw data’ and delete outlayers (flagged data will show red)
Then click on ‘2. Separate the data and plot

The results are shown in new sheets and the ‘block list’ sheet shows now assay conditions for each block

THE TEMPLATE FILE CONTAINS NOW THE ASSAYED RESULTS FOR A SPECIFIC ASSAY SLIDE
SAVE AS … TO KEEP THE ORIGINAL TEMPLATE CLEAN