
TLCANALYSER

Smartphone friendly app
to analyse chromatograms effortlessly



Ilościowa Analiza TLC

Analizuj swoje płytki Thin Layer Chromatography (TLC) z precyzją.



Witamy w aplikacji do analizy TLC

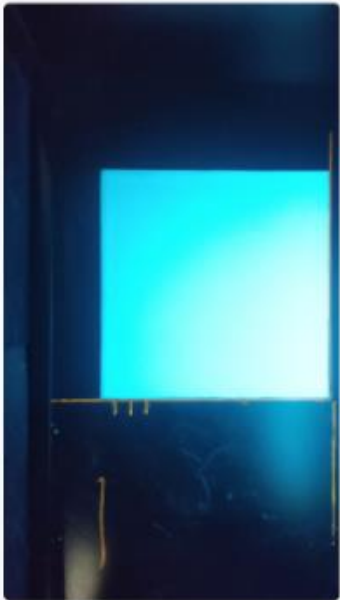
Przesyłaj i analizuj obrazy płytek TLC w prosty sposób.

Images for testing

Choose one of the images below to download it to your device.

Obrazy do testowania

Wybierz jeden z poniższych obrazów, aby pobrać go na swoje urządzenie.



[Pobierz testowy obraz 1](#)



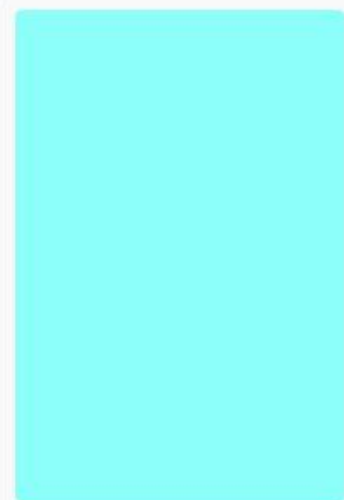
[Pobierz testowy obraz 2](#)



[Pobierz testowy obraz 3](#)



[Pobierz testowy obraz 4](#)



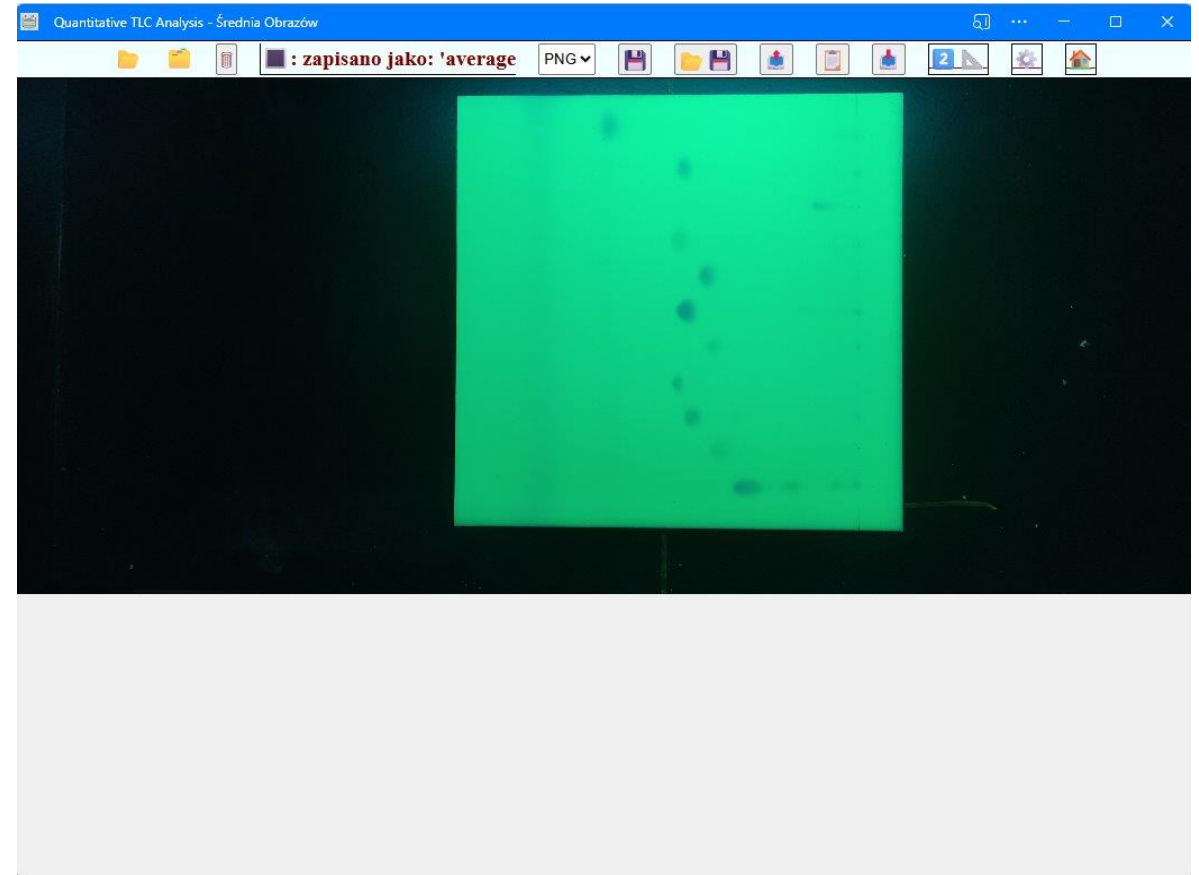
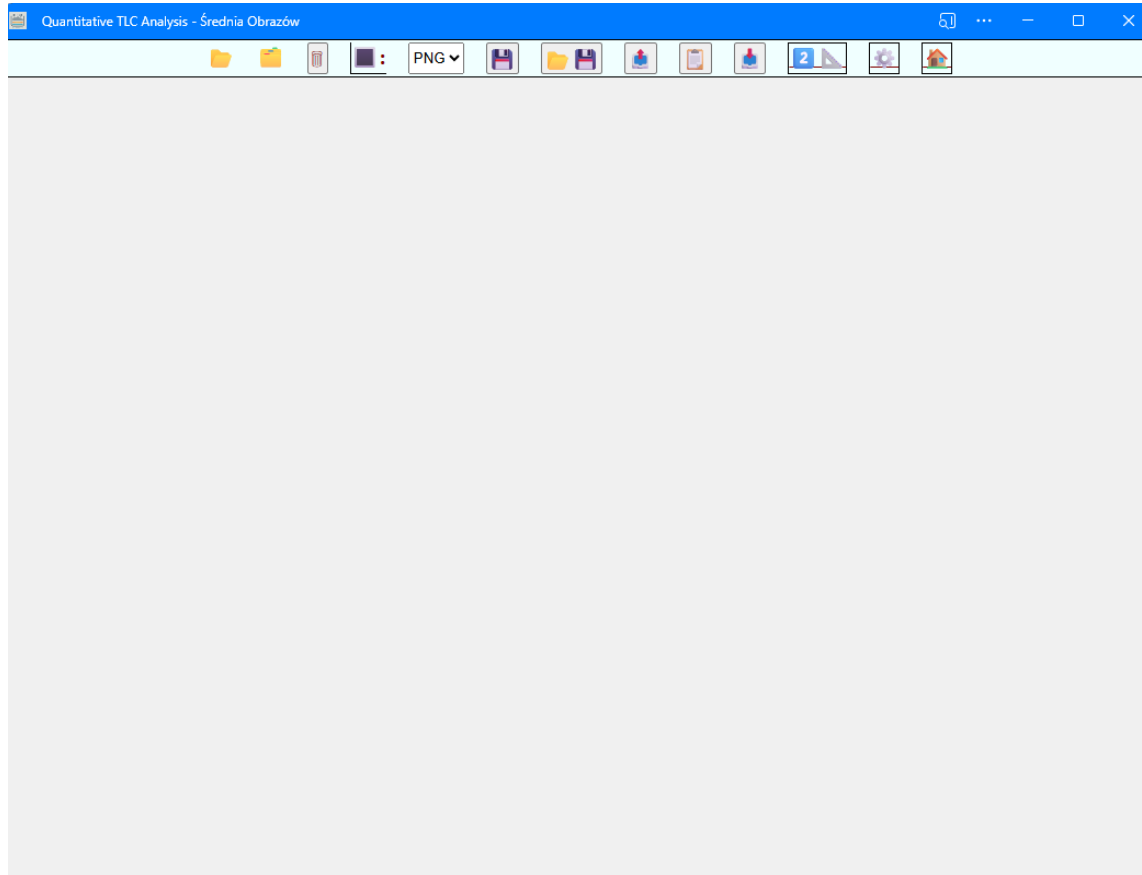
[Pobierz testowy obraz 5](#)



[Pobierz tes](#)

STEP 1 – load & average images

BEFORE (LEFT) & AFTER (RIGHT) LOADING & AVERAGING IMAGES



STEP 1 – load & average images



Load all files from
chosen directory

Load manually
selected files

Loades all images
and do per pixel
averaging

Deletes all images
from choosen directory

Console showing
processing info

Choose file format
when saving

download image

save image to local
space

Copy image to
clipboard

paste image
from clipboard

Share image via
other apps

go to next step
"image cropping"

go to the settings
tab

go to the home tab

STEP 2 – cropp & warp image

select plate area

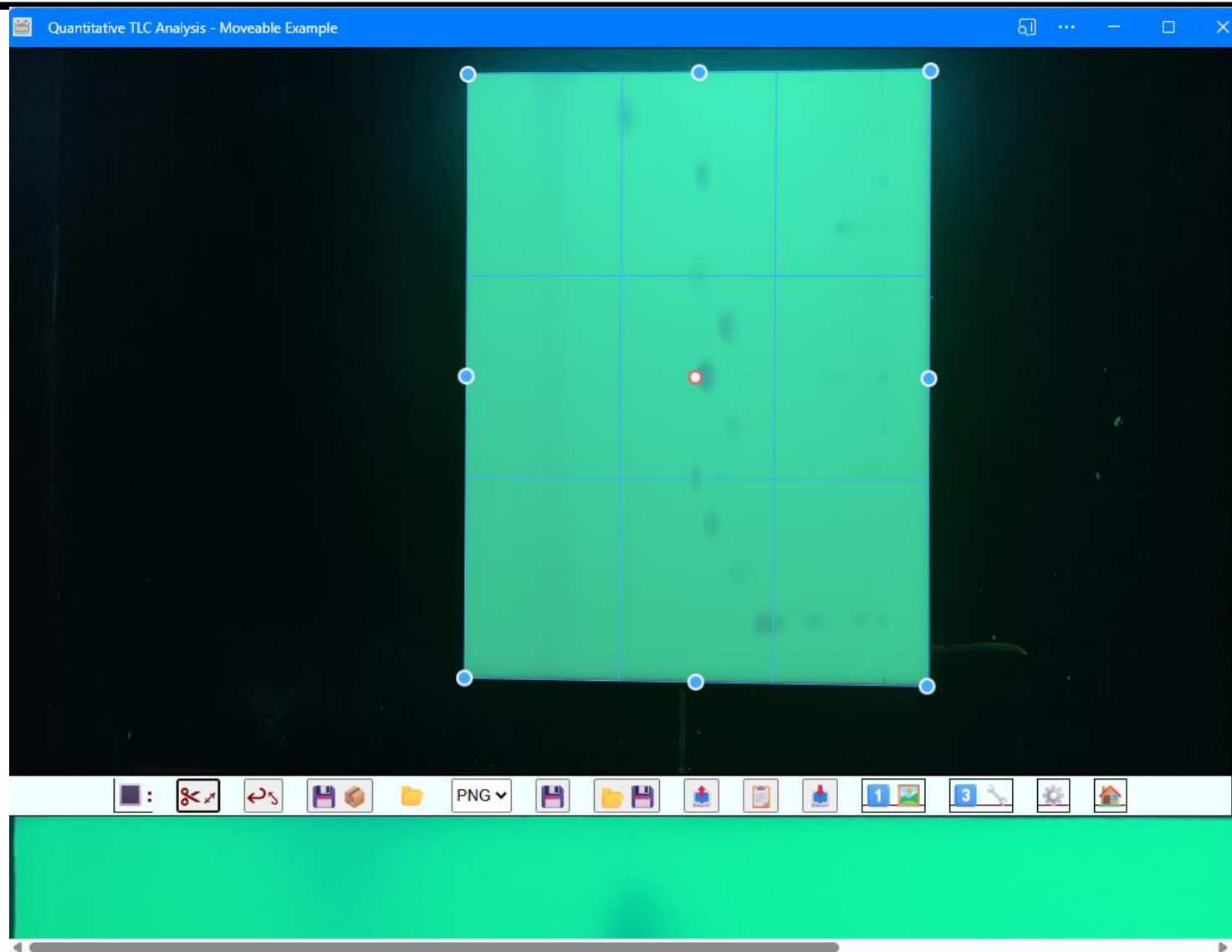
cropp image

put cropped image to main canvas

save image to the next step

The screenshot shows the 'Quantitative TLC Analysis - Moveable Example' software interface. The main window displays a green TLC plate image with a blue rectangular selection box. A red dot is visible on the plate. A red arrow points from the 'select plate area' text to the selection box. The software has a toolbar at the bottom with icons for crop, rotate, save, and other functions. The title bar reads 'Quantitative TLC Analysis - Moveable Example'.

STEP 2 – cropp & warp image



■ : zapisano jako: 'warped

image is succesfully
saved to the next step
if console shows this

Non accurately
Cropped border

1:1 scale cropped
image

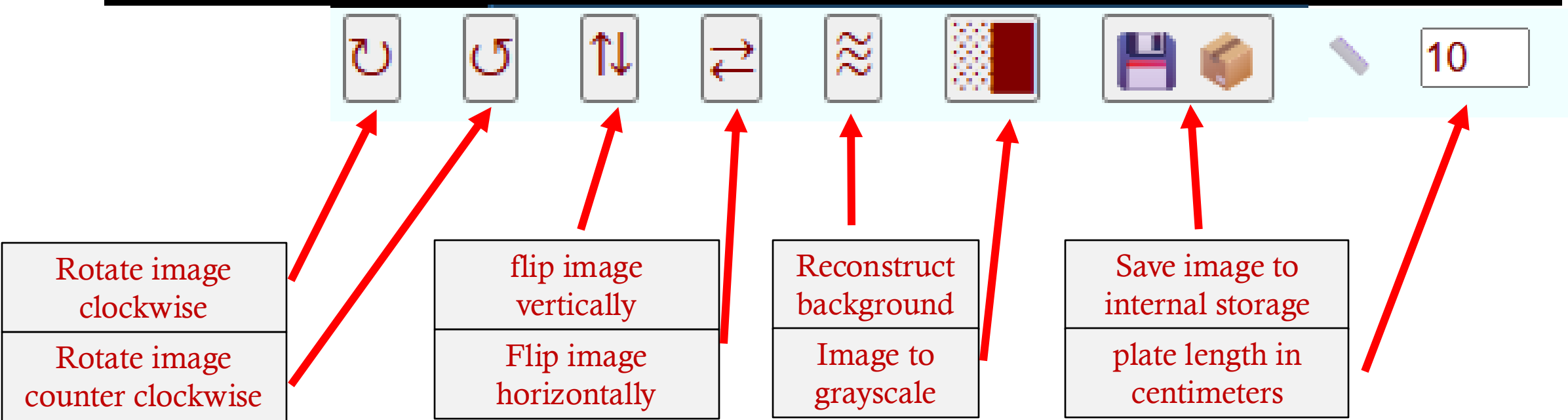
STEP 3 – select tracks & recreate background

The screenshot shows the 'Quantitative TLC Analysis - IndexedDB Image' software window. The main area displays a TLC plate image with two horizontal tracks highlighted in blue. The top track is labeled 'Track: 1' and the bottom track is labeled 'Track: 2'. The background of the plate is green. The software interface includes a toolbar at the bottom with various icons for file operations, analysis, and display. A red dot is visible on each track, and a blue circle is on the right side of each track. The bottom toolbar contains a text input field, a slider, and a button labeled '2'.

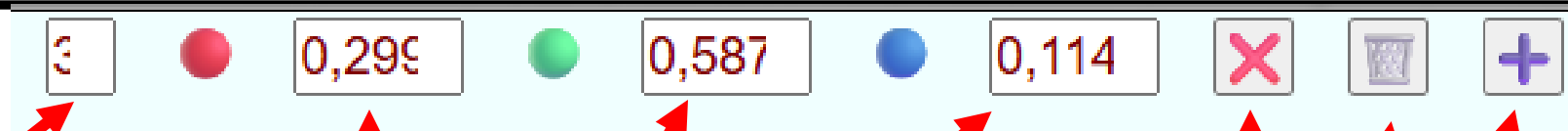
Instructions for Step 3:

- Select start line
- Select endline
- Determine track borders
- Max length 10 characters
- name the track
- change image bright

STEP 3 – select tracks & recreate background



STEP 3 – select tracks & recreate background



degree of polynomial
regression

< 3 – fast but less
accurate

3-4 – balanced

>4 – accurate but
slow

red channel

green channel

blue channel

color channel
weight

Unselect track

Delete

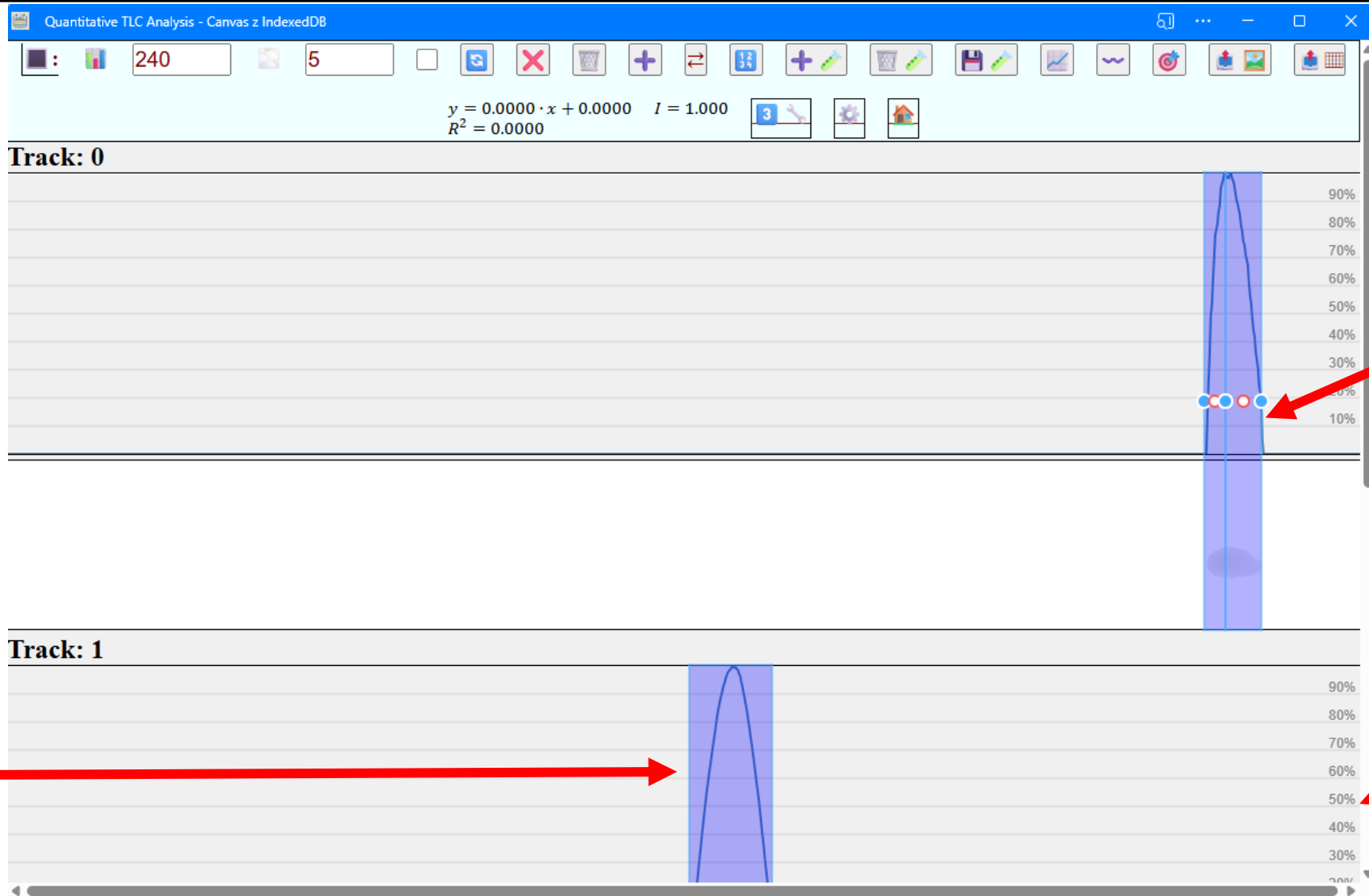
Add new track

STEP 4 – final results

track name

chart

image of track



Determine peak borders

% of maximal peak on this track

click on peak to see calculated parameters

STEP 4 – final results

Concentration curve
coefficients

$$\begin{aligned} y &= 0.0000 \cdot x + 0.0000 \\ R^2 &= 0.0000 \end{aligned} \quad I = 1.000$$

Index of linearity

1 – perfect linearity

0 – no linearity

Point of reference

Concentration weight
Used to normalise
different photography
conditions

STEP 4 – final results



240



5



Exclude pixels
brighter than

240 is optimal in most
cases

Lower values are not
taking into
account low intensity
spots

Upper values includes
noise

Blurr kernel size

WARNING

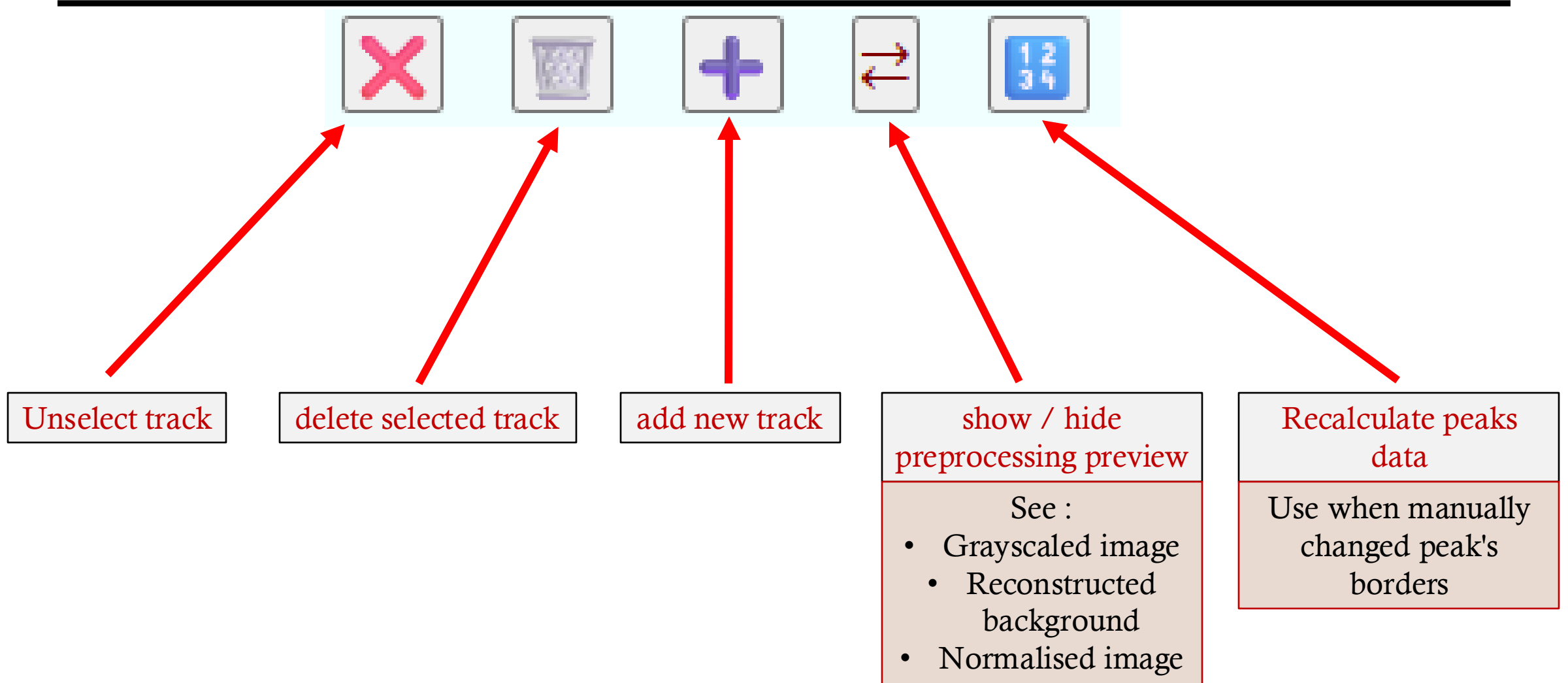
Blurr is only used to
set the boundaries of
peaks

and only applied to
non 0 values

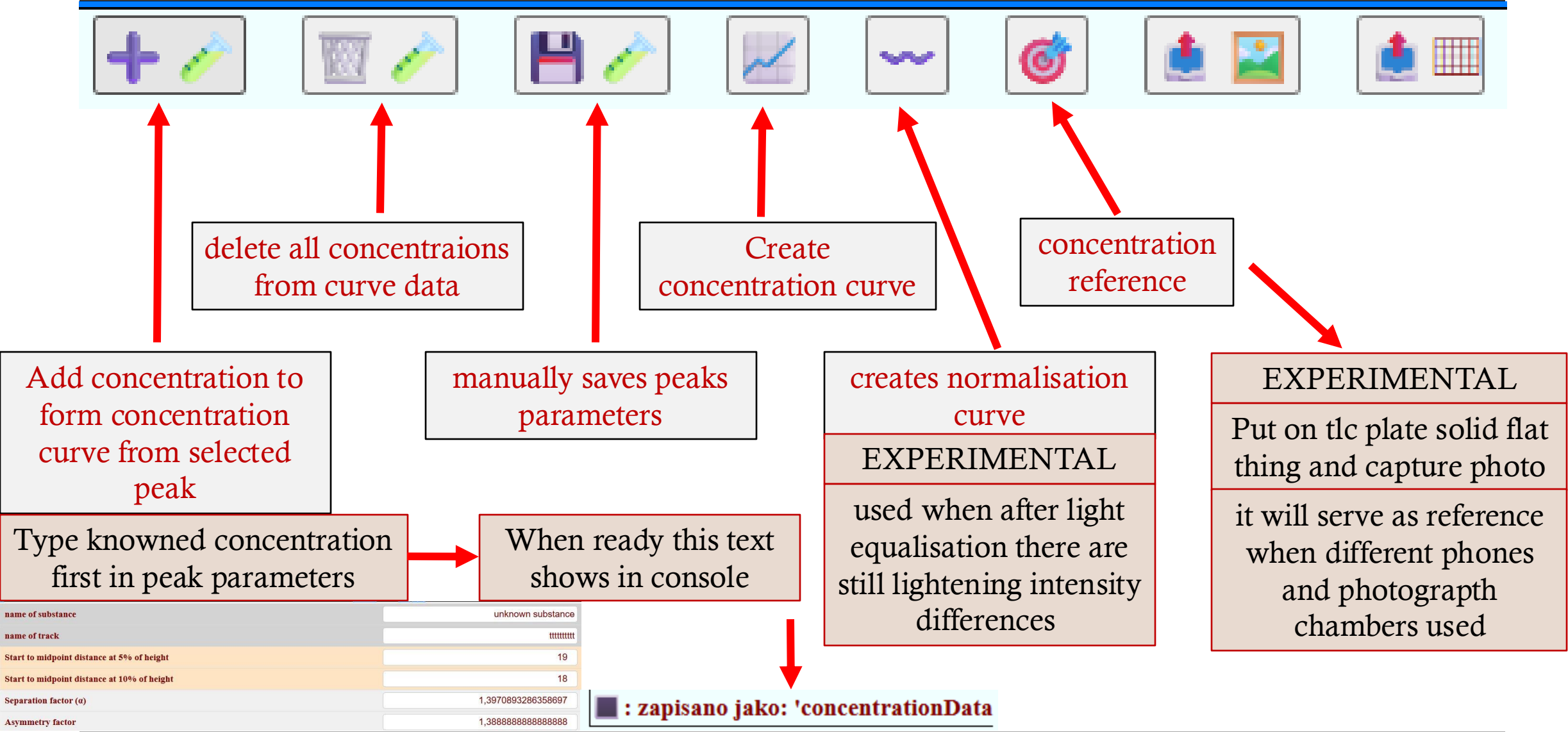
for calculations raw
(not blurred) data are
used

Show/hide blurr on chart

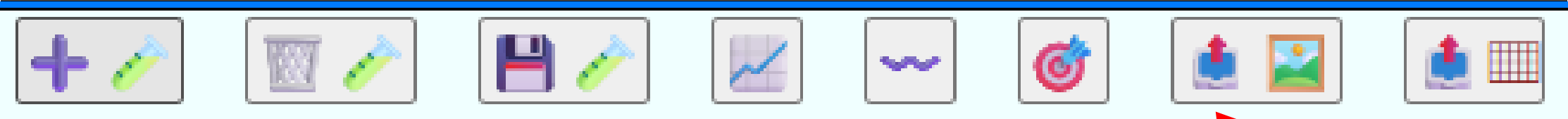
STEP 4 – final results



STEP 4 – final results



STEP 4 – final results



Copy to clipboard
screenshot of all charts

Unselect before all peaks

opens new window with
tables with parameters

Only parameters choosen
in settings will be included

from new window select
content manually and copy

You can paste it to all
office software easilly

name of substance	<input type="text" value="unknown substance"/>
name of track	<input type="text" value="tttttttt"/>
Start to midpoint distance at 5% of height	<input type="text" value="19"/>
Start to midpoint distance at 10% of height	<input type="text" value="18"/>
Separation factor (α)	<input type="text" value="1,3970893286358697"/>
Asymmetry factor	<input type="text" value="1,3888888888888888"/>

Edit param value

STEP 4 – final results

data for concentration
curve

Surface: 209975

Concentration: 12

data for normalisation
curve

Y: 0.5

X: 0.5278514588859416

Surface: 21699

Concentration: 13

Y: 0.8501997336884154

X: 0.5994694960212201

STEP 5 – SETTINGS

Refresh app cache

select params
included in report

Unselect all params

Number of
parameters decimals

RF factor treshold for
substances recognition

List of substances to automatic
recognition basing on RF

Quantitative TLC Analysis - Ustawienia

Ustawienia

Odśwież Cache Wszystkich Zasobów

1 2 3 4

Wybierz parametry włączane do raportu

- ☒ name of substance
- ☒ name of track
- ☐ Start to midpoint distance at 5% of height
- ☐ Start to midpoint distance at 10% of height
- ☒ Asymmetry factor
- ☐ Midpoint to end distance at 5% of height
- ☐ Midpoint to end distance at 10% of height
- ☐ Substance concentration
- ☒ Height equivalent to a theoretical plate (HETP) - European Pharmacopeia
- ☐ Height equivalent to a theoretical plate (HETP) - United States Pharmacopeia
- ☒ Retention factor (k)
- ☐ Maximal height on track
- ☐ Greatest peak surface for track
- ☐ Index of midpoint
- ☒ Number of theoretical plates per meter (N/m) - European Pharmacopeia
- ☐ Number of theoretical plates per meter (N/m) - United States Pharmacopeia
- ☒ Number of theoretical plates (N) - European Pharmacopeia
- ☐ Number of theoretical plates (N) - United States Pharmacopeia
- ☐ Maximal height of peak
- ☒ Maximal height of peak / Maximal height on track * 100%
- ☒ % of greatest peak surface
- ☐ Plate width in cm
- ☒ Retention factor (RF)
- ☒ logarithmic retention factor (RM)
- ☐ Surface of spot
- ☒ Tailing factor
- ☐ Track width in cm
- ☐ Width of peak at 5% of height
- ☐ Width of peak at 10% of height
- ☐ Width of peak at 50% of height
- ☐ Width of peak at 0% of height
- ☐ X position 0-1 range of spot centrum
- ☐ Y position 0-1 range of spot centrum

Odznacz parametry

Liczba miejsc po przecinku: 4

Próg rozpoznania substancji (0–1): 0,1

Lista substancji (JSON):

```
[ ]
```