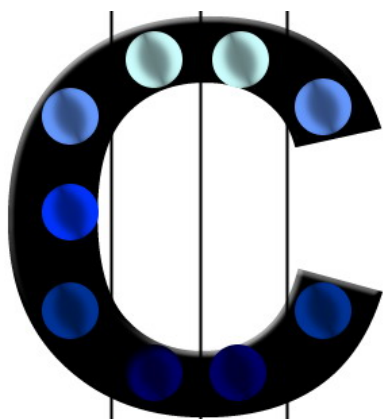# Christhin Quick Guide

Quick Guide to use Christhin
March 2012

Chromatography Riser Thin

Maximiliano Barchiesi
Mercedes Sangroni
Carlos Renaudo
Pablo Rossi
María de Carmen Pramparo
Valeria Nepote
Nelson Ruben Grosso
María Fernanda Gayol

1 Introduction

This is a quick guide for Christhin.

This quick guide is intended to supplement, not replace, the Christhin manual.

Christhin is a software to analyze quantitatively the results obtained by performing a TLC (Thin Layer Chromatography) simply and with great precision.

It is imperative to use the program:

- Install it previously.

- That the plate where chromatography was performed (once already revealed), be scanned and taken to image format type.

2 How to use the softaware Christhin

To use the software Christhin, we recommend following the steps listed below. The sequence of steps will be listed using as an example chromatography whose image file has the name *Run130312.jpg*:
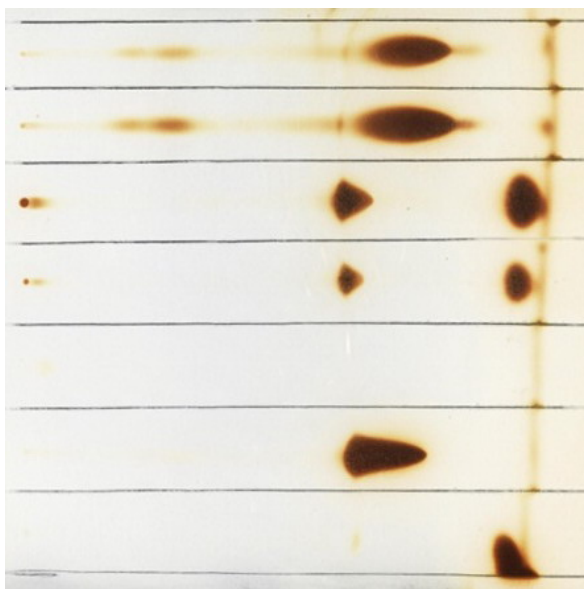

Run the program *Christhin* once installed, which requests inmediately the user indicates the image to be processed:
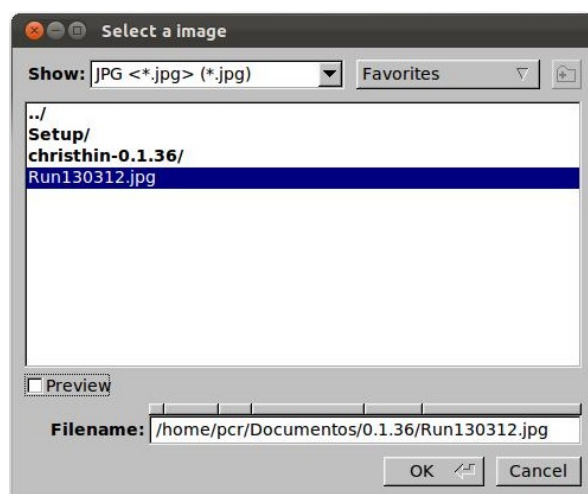
If the scan of the plate was defective, the program allows to make corrections by rotating the image as necessary, to not be necessary this correction, place a rotation angle of zero degrees. The rotation must always be done by ensuring that seed points of the sample left in the bottom of the image, essebtial position for the proper functioning of the software in the following steps.

In the case of the example, the image is horizontally, therefore, is rotated 90° counterclockwise (the program rotates images in reverse clockwise).
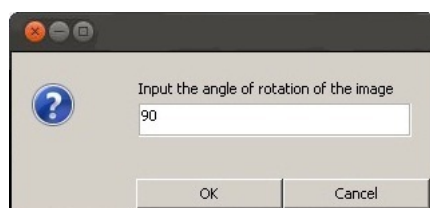

Select the rectangular area where the desired run is. This is done by performing a single clik in the top left, and another in the opposite side, formed an *imaginary* rectangle.

Remember to include in it both the solvent front as the point of sowing.
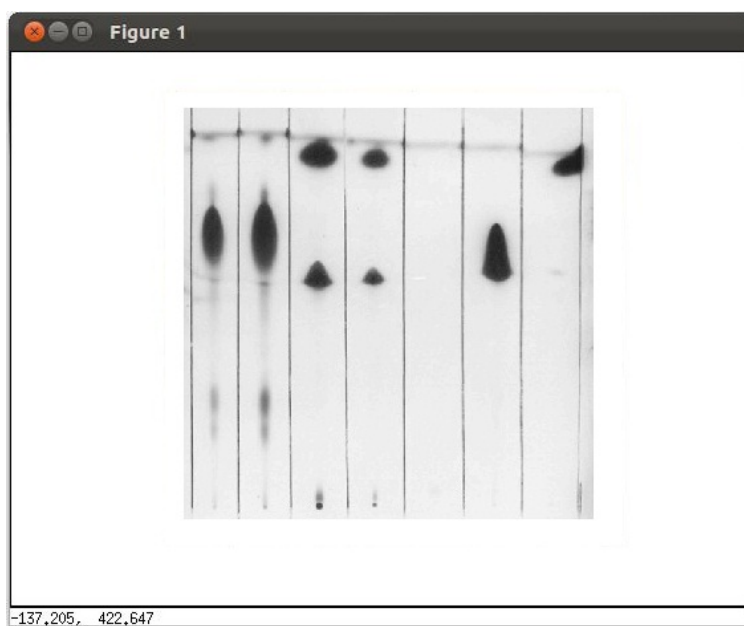
After selecting the appropriate area, you press *enter* to confirm. On screen will appear a new image containing only the selected peak in the previous step. On this image, select the seed point and the solvent front with a single click in each case. This step is intended to collect information to calculate the *Rf* value (Ratio of Front). After selecting both points, press *enter* to confirm.
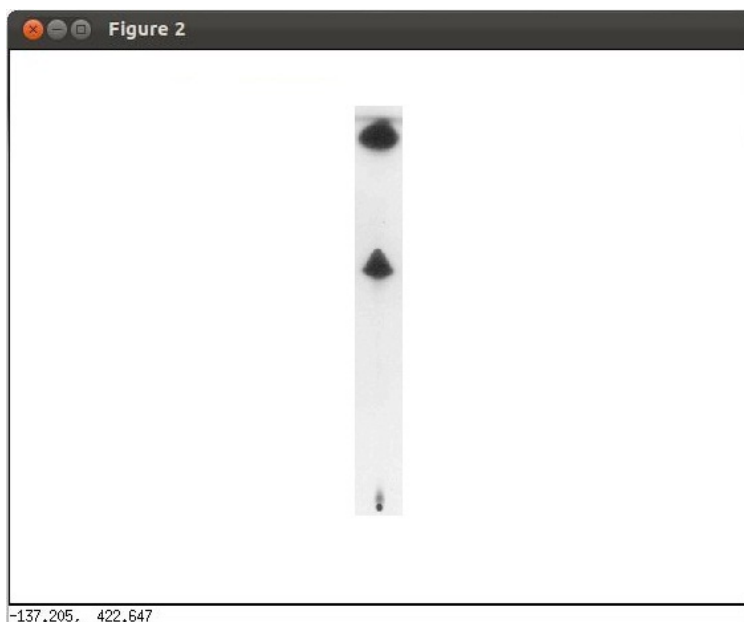
On screen now appears a chromatogram which contains the information of the run, being the peak area proportional to the intensity of the spots on

the run, and therefore proportional to the amount of each component in the sample chromatographed.
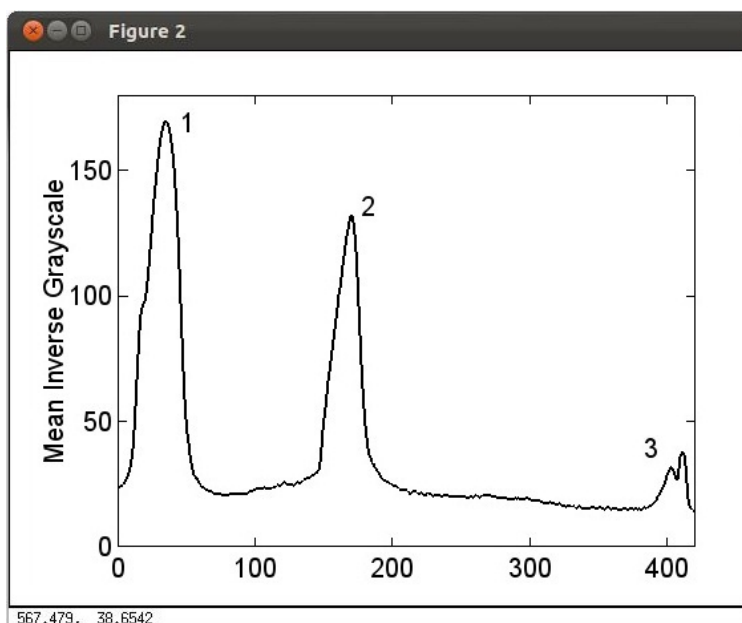
In the chromatogram, select with a click the start of each peak and with another the end, depending on how many of them possessing the image under analysis. Make the selection without regard to the height of the respective click (do not give importance to the selected value on the y-axis, but the selected value on the x-axis), as the program located the click automatically on curve.

After selecting all the peaks, press *enter*, and this completes the analysis of the run, the program lets you enter comments if necessary, for example "esterified oil sample" (if not take comments, press *Ok* only).
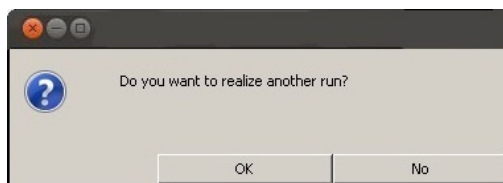
The program offers the possibility to analyze another run, because in general in this type of chromatography is performed several runs simultaneous in one plate. If it is necessary to consider another run, select *Yes*, and repeat steps 3 to 6 inclusive; not being necessary to consider another run, select *No*, which ends the program execution.

As a result, in the same location of the image *Run130312*, the program creates a folder with the same name of the image, in which is saved the image *Run130312* in grayscale, the chromatogram that allowed the analysis, and a spreadsheet file containing the comment entered, plus the percentage of area represented by each peak selected and the *Rf* value for each compound. Each peak has in the chromatogram an assigned number which corresponds to the number that contains the percentage of area on the text file.