

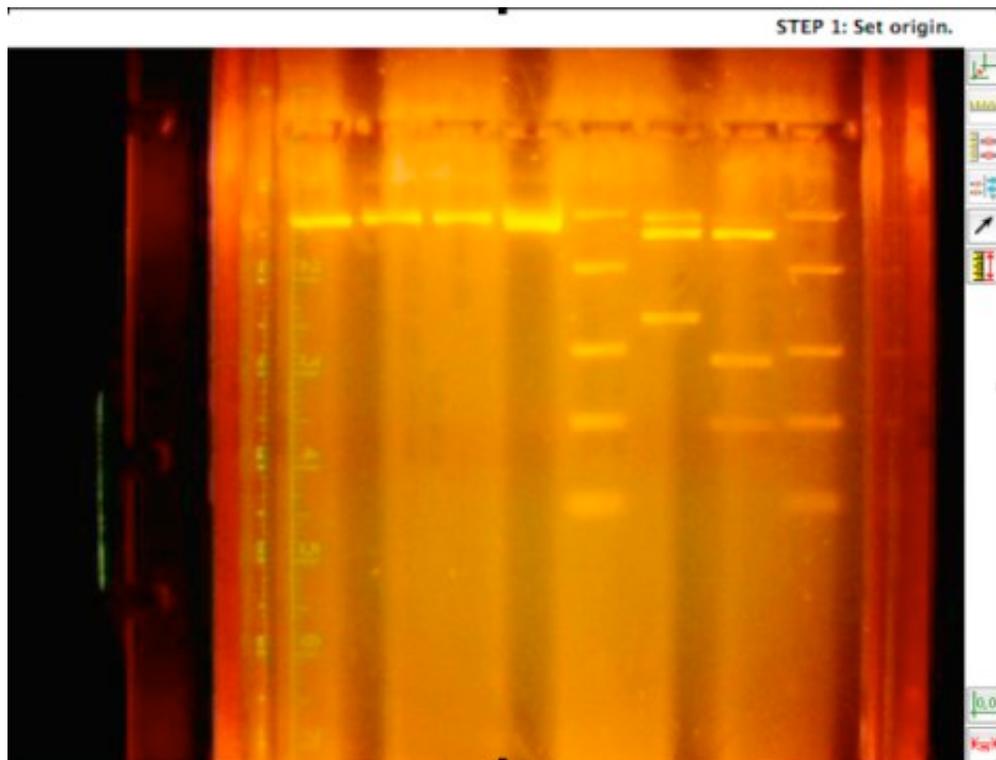
Gel Analysis

Gel Electrophoresis is a method used to separate biological molecules based upon molecular charge (polarity), molecular mass, and molecular shape. This is particularly useful in separating charged biomolecules such as deoxyribonucleic acid, DNA, and ribonucleic acid, RNA.

The Logger Pro Gel Analysis feature calculates the number of base pairs of various molecules based on the distance traveled during electrophoresis.

Setup for Gel Analysis

Select Gel Analysis from the Insert menu of the program, and select either Take Photo or From File. Take Photo is a live method of [capturing](#) your gel results using a ProScope, Logitech, or other digital camera. Choose From File to select a gel photograph stored in your computer.



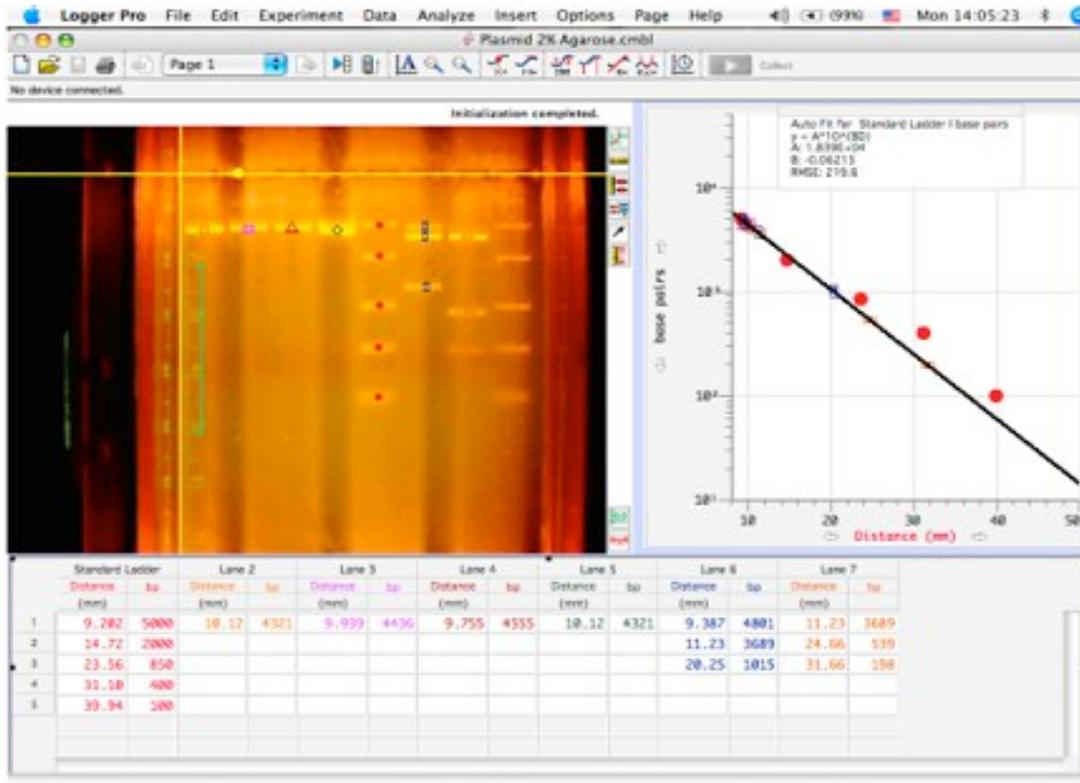
Analyzing the Gel Photograph

The following sequence of steps will guide you through analysis of your gel photograph:

-  Click on the **Set Origin** button and position your cursor to the left of the first well and click. A yellow origin will appear where vertical and horizontal lines intersect. Drag the origin up or down to position the horizontal line in the middle of all the wells. Use the dot on the horizontal line to rotate, if needed.
-  If your photo includes a reference to distance such as a ruler, click on the **Set Scale** button. This step is optional. If it is skipped, distances will be reported in pixels. Use your cursor to draw a line of known distance on the photo. A window will appear allowing you to input the distance of the line you draw.
-  Click on the **Set Standard Ladder** button. Click on the center of the first band of the Standard Ladder in the photo. Enter the number of base pairs in the window that appears. Click on the next band and repeat for all bands in the standard ladder.
-  Once the Standard Ladder has been set, click on the **Add Lane** button and on the Add Lane option. Click on the center of the first band of the first experimental lane. The number of base pairs will be calculated and entered in the data table and on the graph. Click on each of the remaining bands in this lane.
- To register the bands of the next lane, click on the **Add Lane** button and on the Add Lane option that appears. Repeat procedure employed in step 4. This sequence is repeated for each additional lane being added to your analysis of this gel photograph.

Analysis of your gel is complete.

Note: Logger Pro will automatically name the first experimental lane "Lane 2." If you wish to change the name, you can do so by double-clicking on the data set name in the data set table and typing in the new name.



Completed Gel Analysis of plasmid pBR322 digested with three different restriction enzymes (RE's). Lanes 6 & 7 exhibit the result of multiple RE's acting on the plasmid. The central lane with five bands is the Standard Ladder lane.

The graph depicts the Standard Curve and the large point circles used to establish the curve. The solid circles represent the standard ladder while the other symbols indicate the different experimental bands. The graph is scaled to show millimeters (mm) migrated on the horizontal axis and number of base pairs along the vertical logarithmic axis.