

Bio-2D

> A new dimension for your 2D gel

Bio-2D is a unique software for the analysis of 2-D gels. Fast and accurate analyses are just a few clicks away. Bio-2D associates the power of a build-in database and a comprehensive set of analytical tools. The database search engine provides immediate matching results, controlled by customisable parameters.

Bio-2D is the perfect solution to complete your Vilber Lourmat 1D package.

Key modules

• Detection

The spot detection methods include a threshold approach for an accurate spot contour definition. Detection parameters can be modified to take into account the specificities of your own sample. Prior to detection, you can also define the analysis area and process background subtraction.

• Scale adjustment

The scale adjustment algorithm is used to correct the distortion between several gels in order to compare them. Selected spots of the reference gel are considered as the master. The spots positions of the other samples are recalculated according to the defined distortion network.

• Spot characterization

A full set of values is calculated to characterize the spots. These include the MW, the pI, the gravity, the volume, the area, the perimeter, the compacity and the eccentricity. The spots can be sorted out and eliminated according to several criteria. Each spot is numbered and can be directly connected to its analytical data.

• Spot matching through several gels

The comparison is done for selected matching spots or for all the sample values. The comparison is expressed either in volume or in movement of the center of gravity of the matching spots.

• Database

Data are saved in a flexible and robust database. The database can have 10 levels of directories and 999 sub-directories for each directory. A set of intuitive tools makes database management a very simple process.

Specifications

Detection and scale adjustment

- Subtract the background by deconvolution approach
- Recognize the contour by local contrast method
- Display volume, gravity centre, maximum intensity, height, circularity and eccentricity for each detected spot
- Calculate the gravity, the volume, the area, the perimeter, the compacity and the eccentricity

Database and comparison

- Store all the detected spots in a flexible database
- Compare images stored in the database to currently analyzed images
- Organise the database with up to 10 directory levels and 999 levels of sub-directories
- Store unlimited number of samples
- Store each image with its band M.W. / pI
- Identify each sample with a specific name and a reference for the initial image
- Adjust the distortion between several images (triangulation)
- Read the intensity levels between images by using one or more control spots

- Display matching and non matching spots
- Visualize the spot movement
- Recalibrate the gels to take into account the differences of staining or exposure time
- Protect your data with a password for each user

Molecular weight and pI point calculation

- Calculate M.W. and Isoelectric point for each spot according to the scales defined by the user
- Define values for M.W. / pI markers
- Display the marker curve

Image enhancement and management

- Cut, copy and paste inside the original image or the new one
- Modify the image format to TIFF, BMP, GIF, MAC, PICT, WPG, PCX, TGA, or JPEG
- Print on the default desktop printer
- Zoom in or out with pixels recalculation
- Add comments or symbols
- Reverse the image according to an horizontal or vertical axis of symmetry (as seen in a mirror)
- Invert the image to obtain a negative or a positive display

