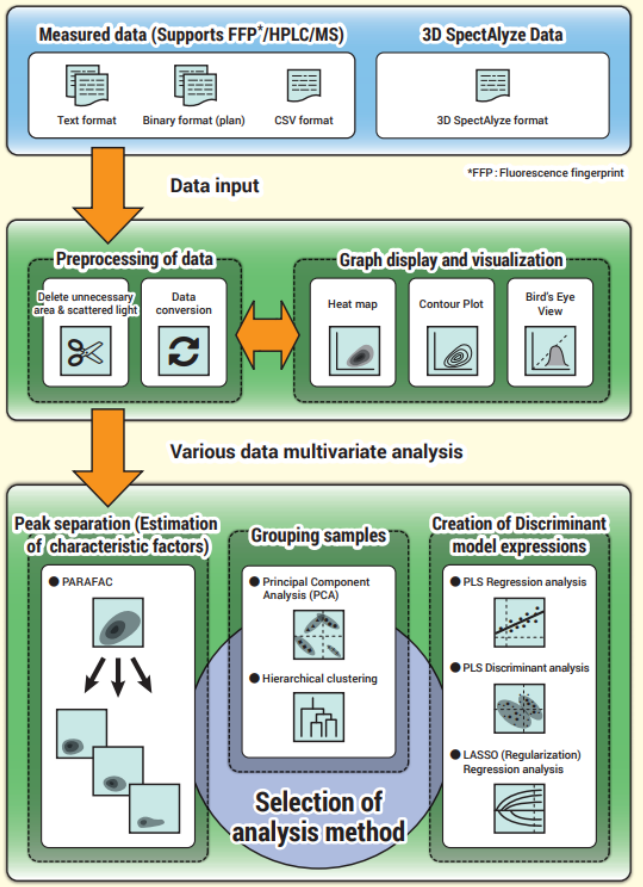
Multivariate Analysis Software

3D SpectAlyze®

Multivariate analysis software specialized for various analytical data including fluorescent fingerprint

3D SpectAlyze Data Analysis Flow Chart



Main features

- **Various multivariate analysis are possible**
  A simple operation various multivariate analysis can be done, such as grouping samples, creating discriminant model expressions, discriminant of unknown samples using model equations, peak separation, etc.
- **Preprocessing of data**
  Preprocessing (deletion of unnecessary area/deletion of scattered light) is possible while confirming the image data of the read sample.
- **Simple user interface**
  Even for users who are new to multivariate analysis, it is possible to perform data acquisition and analysis results display with a simple screen operation.
- **Supports multiple types of analysis data**
  Data obtained from Hitachi's analysis equipment such as spectrofluorometer, liquid chromatograph, mass spectrum are supported.
- **CSV Data Input is possible**
  It is possible to read CSV format files output from other analysis software, spreadsheet software etc.
- **Save image data**
  The image data of the imported sample and the graph of the statistical analysis result can be saved as an image file (PNG / JPEG / PDF).

For those new to multivariate analysis:

Analysis is possible by simple operation!

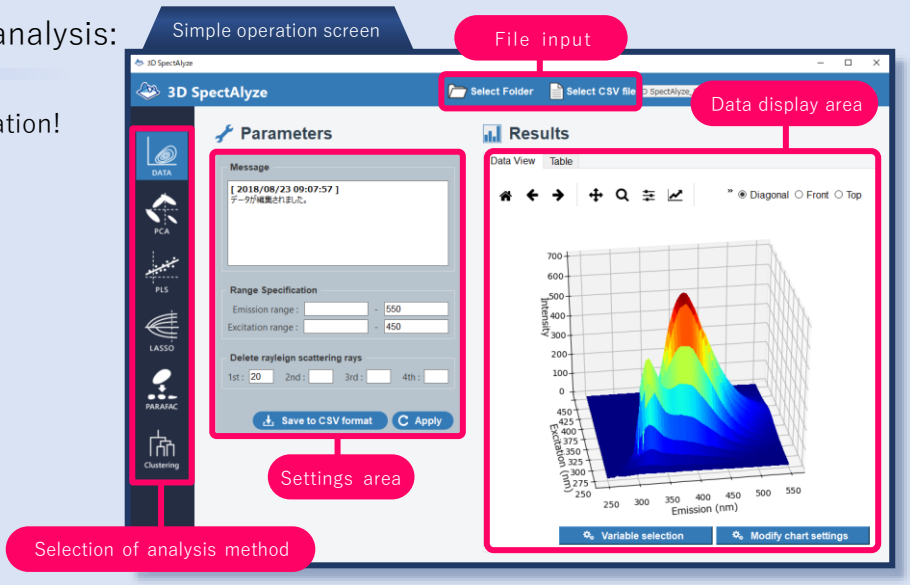
Explanation video from here

English version

Chinese version

Easy introduction to Analysis Methods Outline and How to operate software

https://www.dynacom.co.jp/english/threedspectalyze_e/e_td_movie.html



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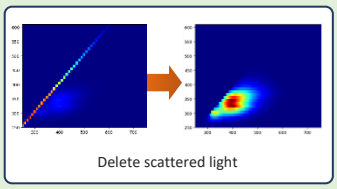
Analysis of various data from Fluorescence Spectrophotometer, HPLC, etc.

3D SpectAlyze

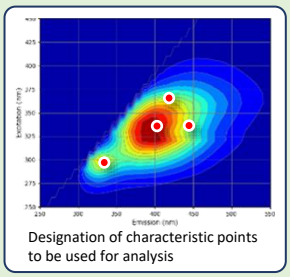
Preprocessing function

Delete scattered light / Specify analysis range / Center data /

Select data / Specifying variables to use for analysis / Group Data



Delete scattered light



Designation of characteristic points to be used for analysis

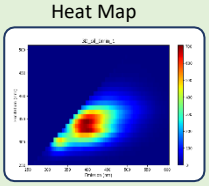
Graph display function

Heat Map / Contour Map / Bird's Eye View /

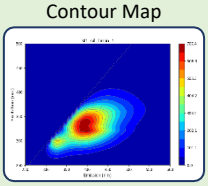
Color tone change / Data multiple display / Transposition of axes

Visualization of Fluorescence Fingerprint Data

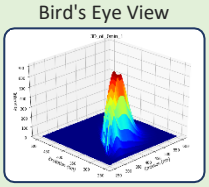
Heat Map



Contour Map

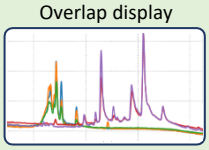


Bird's Eye View

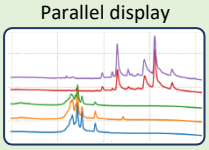


HPLC data visualization

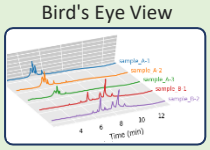
Overlap display



Parallel display



Bird's Eye View

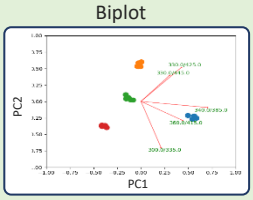


Statistical analysis function

Principal component analysis (PCA)

It is a method of aggregating multiple measurement values into fewer indices.
It is useful when you want to see which samples are similar by summarizing all data.

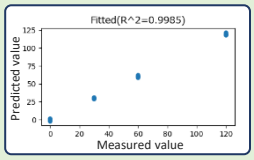
Biplot



PLS regression analysis / discriminant analysis

It is a method to construct a model that predicts unknown sample of discrete or continuous variables by using all measurement values. It is a strong feature when there is a correlation between variables.

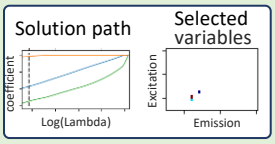
Plot of measured and predicted values



LASSO regression analysis

It is a method that automatically chooses characteristic points by cross validation and constructs a prediction model.
It is effective to predict and discriminate unknown samples.

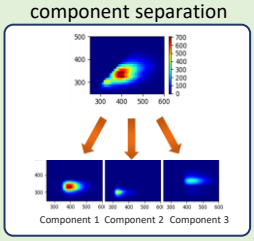
Show the variables that contribute to the result



PARAFAC analysis

It is a technique to separate each component from the fluorescent fingerprint data where multiple components overlap, and extract features.

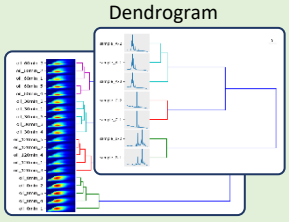
Heat map before and after component separation



Hierarchical clustering

It is a method to create a cluster in order from the most similar sample from the data of multiple samples.
By displaying image data the difference can be visualized.

Dendrogram



Function comparison table

Grade	Basic	Standard	Pro
Data input	○	○	○
Pre-processing of data	○	○	○
Data visualization	○	○	○
PCA	○	○	○
PARAFAC	○	○	○
PLS		○	○
LASSO		○	○
Hierarchical clustering			○
Data management function			○

System requirements

System：Windows 8.1 / 10
RAM：4GB or more
Disk space：10 GB or more
Others：CD-ROM drive（for software installation）
Standard USB 1.1 interface, compatible with USB 2.0 *

* User management is conducted by using a USB-dongle on this product.
Therefore, one USB port is necessary during this software execution.

Support

Free support for 1 year after purchase is attached.

Sales Agent

Hitachi High-Tech Science Corporation
You can download the trial version from their website and use it.

"3D SpectAlyze" is a registered trademark of DYNACOM Co., Ltd. in Japan.

DYNACOM Co., Ltd.

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