ondalys

Making sense of your data…

# Fast identification of raw materials using near infrared spectroscopy

## ➢ Context / Client request

The client, a major player in pharmaceutical industry, receives numerous raw materials from various suppliers every day.

The raw materials reception laboratory must ensure that the products received comply with the expected specifications. Until now, all raw materials were sent to the control laboratory for batch release.

In order to gain time and efficiency, a fast method to characterize the products is necessary. The client chose to implement an identification method using near infrared spectroscopy, and therefore purchased a spectrometer (Bruker MPA®).

## ➢ Ondalys solution

The client has measured many spectra of different raw materials over several years.

Ondalys used these databases and its expertise in chemometric methods to build identification models.

The measured spectrum is compared to the reference spectra of the database, that includes all the raw materials participating in the method. Using statistical tools, a threshold is then calculated for each raw material. Thus, each spectrum analyzed is assigned to the raw material whom spectra is the closest. However, the spectra must also be sufficiently distant from the other raw materials.

Based on this data, Ondalys has optimized and developed robust qualitative models for product identification. The spectra of over a hundred different raw materials have been modeled in order to be quickly identified using models with excellent performance.

## ➢ Results / Client benefits

Using the implemented identification models, it is now possible to check more than one hundred raw materials in different forms, in a fast (< 30 seconds) and non-destructive way. Regular updates will maintain the robustness of the qualitative models while increasing the number of identifiable products using near infrared.

The time saved by the use of qualitative identification models will allow the customer to release the batches more quickly upon receipt, to increase the production volume but also to diversify the types of product received.

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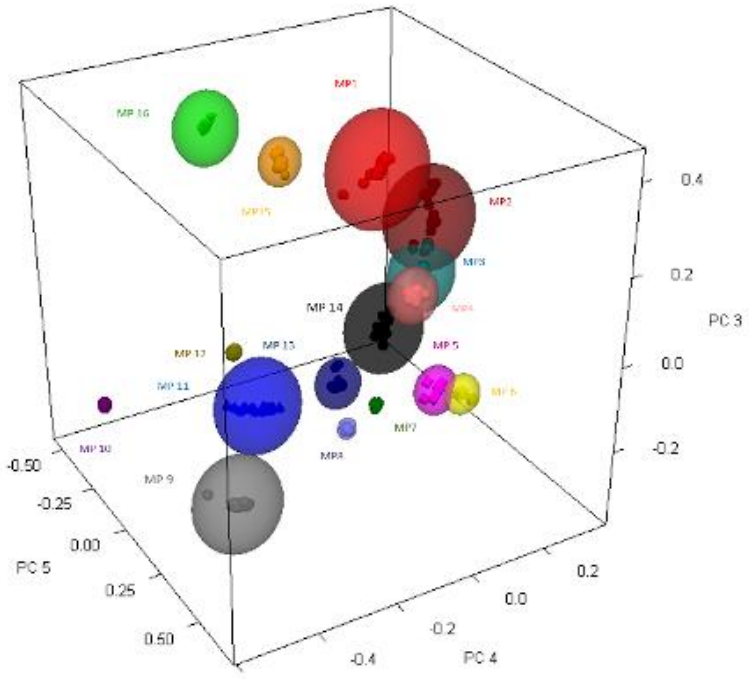


3D Plot of the different clusters (OPUS software)