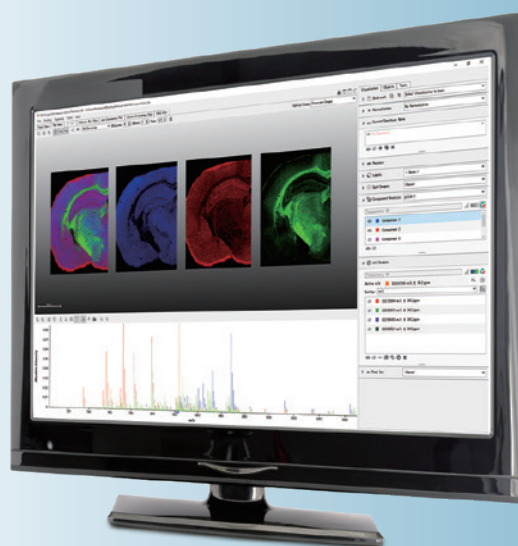




JMS-S3000 SpiralTOF™-plus



SCiLS Lab MVS

Advanced statistical analysis of MALDI MS imaging
data acquired by **SpiralTOF™-plus** while taking full
advantage of its high mass-resolving power



JMS-S3000 SpiralTOF™-plus MALDI-TOFMS imaging system

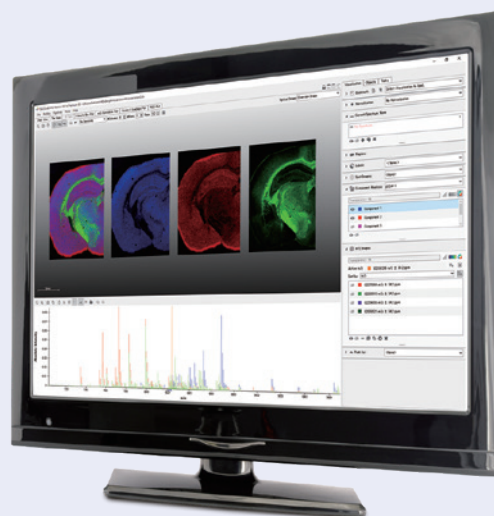
- High mass-resolving power and high mass accuracy achieved by JEOL's unique SpiralTOF ion optics with 17 m flight path.
- High mass-resolution can be achieved even for an imaging specimen with uneven surface.
- Chemical noise in low m/z region is significantly reduced as PSD (post-source decay) ions are eliminated by the electric sectors used in the SpiralTOF ion optics.
- Highly selective spatial distribution can be obtained by separating target analytes from interferences with high mass-resolution.

SCiLS™ – We turn data into knowledge!

SCiLS Lab MVS

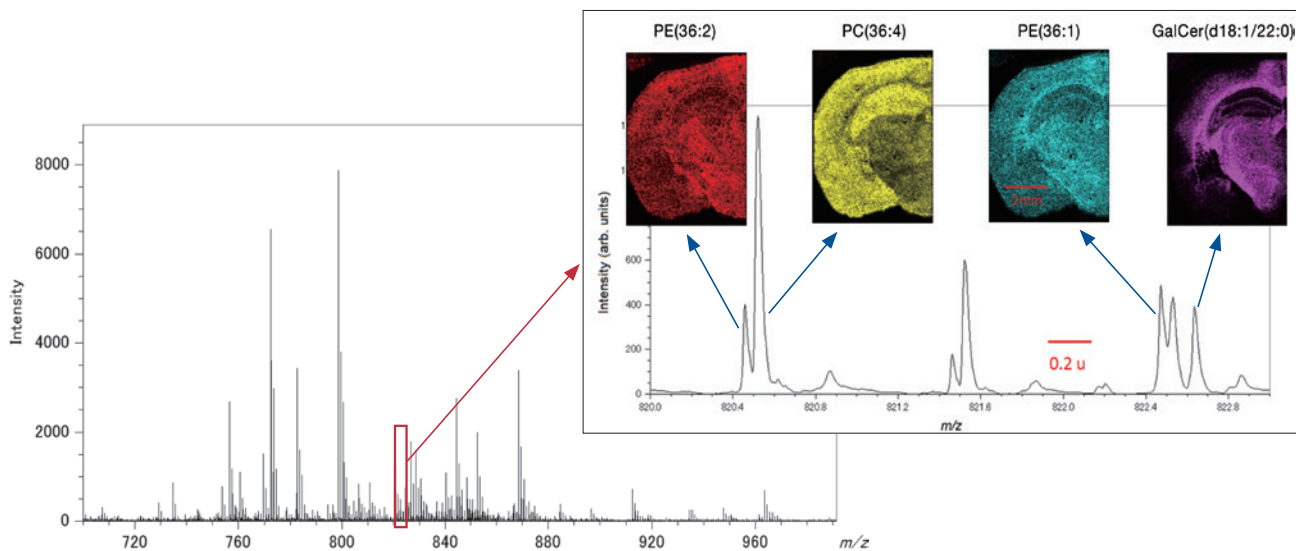
Software for MS imaging data analysis

- Data analysis based on the vendor-neutral imzML format
- 2D and 3D visualization allows a multitude of applications in pharmaceutical, medical, and industrial research
- Advanced processing and analysis with next generation machine learning algorithms
 - ▶ Comparative analysis
 - ▶ Co-localization analysis
 - ▶ Spatial segmentation
 - ▶ Component analysis
 - ▶ Classification model calculation
 - ▶ On-tissue quantitation

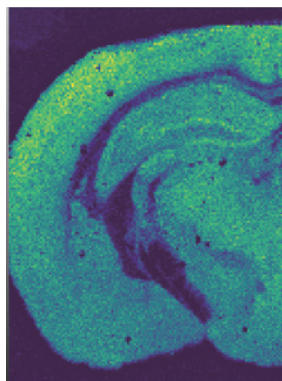


Analysis of Lipids in Mouse Brain Tissue Section

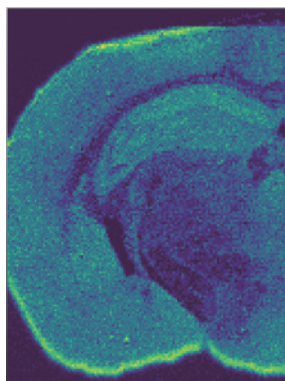
Mouse brain sections contain a variety of lipid classes. A mass spectrum obtained from the tissue section is highly complex, especially in the region of m/z 700 - 1,000. Many of the peaks in the mass spectrum are less than 10% of the base peak, representing minor components. The high mass resolving power of the SpiralTOF™-plus clearly separated these minor components. Advanced statistical analysis is performed on all of the resolved mass spectral peaks.



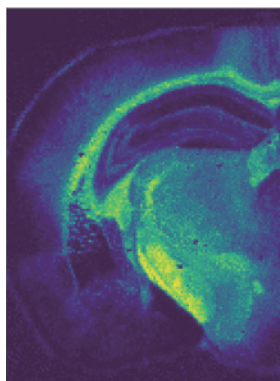
Result of pLSA (probabilistic latent semantic analysis)



Component 1

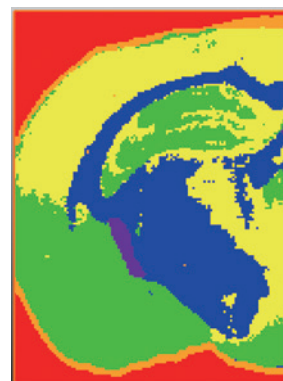


Component 2

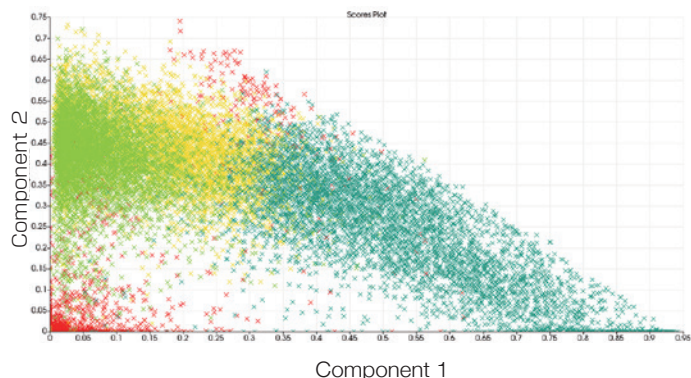


Component 3

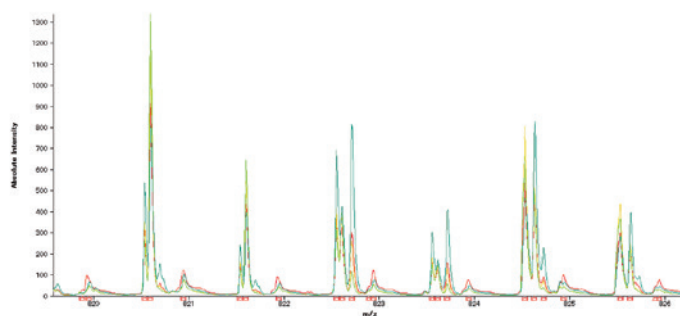
Segmentation



Relationship between pLSA score plot and Segmentation



Mass spectra from respective segments



■ SCiLS Lab MVS products

SCiLS Lab MVS core

- Perpetual software licenses with three floating hardlock USBs
- Data sets must not exceed 40,000 spectra.
- Analysis for single MALDI imaging data set is possible.

SCiLS Lab MVS Pro Annual Academic

- Annual subscription for three floating hardlock USBs
- Statistical analysis for MALDI imaging data sets of virtually unlimited size
- Statistical analysis across multiple MALDI imaging data sets
- A SCiLS Lab MVS Core license is required.
- Comes with a discount for academic customers.

SCiLS Lab MVS Pro Annual Industry

- Annual subscription for three floating hardlock USBs
- Statistical analysis for MALDI imaging data sets of virtually unlimited size
- Statistical analysis across multiple MALDI imaging data sets
- A SCiLS Lab MVS Core license is required.

SCiLS Lab MVS Premium 3D Annual

- Annual subscription for three floating hardlock USBs
- Constructs 3D MALDI imaging models from consecutive 2D datasets, and to visualize and analyze 3D MALDI imaging data.
- A SCiLS Lab MVS Core license and an annual subscription of SCiLS Lab MVS Pro (Academic or Industry) are required

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3-1-2 Musashino Akishima Tokyo 196-8558 Japan Sales Division Tel. +81-3-6262-3560 Fax. +81-3-6262-3577
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