



**AUTOMATED, HIGH-RESOLUTION
SAMPLE PREPARATION**

superlimator

From bottleneck to breakthrough: Streamline imaging
with push-button sample preparation

Innovation with Integrity

Automated sublimation for reproducible imaging. Set up in minutes. Trust the results for months.

Sample preparation is where MALDI Imaging experiments succeed or fail. The **superlimator™** automates sublimation with validated protocols for a variety of matrices, delivering consistent coating thickness in 5-10 minutes. No solvent contact means no analyte delocalization for small molecules. Integrated recrystallization boosts sensitivity when you need it. And because it's built for IntelliSlides®, it slots directly into the SCiLS™ autopilot workflow with no method development required.

- **Reproducible by design**

Automated protocols remove operator variability. Matrix transfer CV is <5% across instruments.

- **Spatial fidelity for small molecules**

Solvent-free sublimation prevents delocalization of drugs, metabolites, and lipids.

- **Sensitivity when and where you need it**

Integrated recrystallization improves analyte incorporation without sacrificing resolution.

- **Efficient matrix use**

75% matrix transfer efficiency. Less waste, lower cost per slide.

The diagram shows a cross-section of the superlimator device. It has two main chambers. The left chamber is labeled 'COLD SIDE' and contains a slide frame with three IntelliSlides. The right chamber is labeled 'HOT SIDE' and contains a crucible. Arrows point from the text labels to their respective parts in the device.

COLD SIDE

Up to three IntelliSlides with mask in slide frame

HOT SIDE

Crucible to be filled with solution (MALDI matrix or solvent)

What you get:

- 5-10 minute coating time for standard matrices
- <5% CV across instruments and operators
- No solvent, no delocalization

Unwavering reproducibility:

<5% CV. Across matrices. Across instruments.

Some spatial techniques struggle with method transfer and cross-site reproducibility. MALDI Imaging doesn't have to. We tested three **superlimator** units with three common matrices (DHAP, DHB, CHCA). Matrix transfer consistently reached 75% with standard deviation below 5% in every case. That consistency holds whether it's your instrument or a collaborator's, your operator or a new trainee.

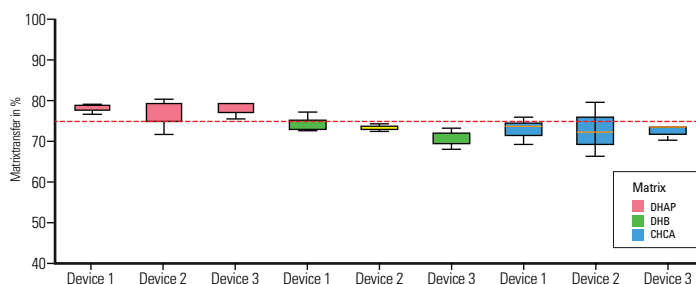


Figure 1: Matrix transfer achieves reproducibility with a standard deviation of <5% across different instruments and matrices.

Integrated touch display

A user interface with simple step-by-step workflows for intuitive application of the instrument



From slide to image in a connected workflow. Supporting precision and reproducibility with ease.

The **superlimator** is built to work with IntelliSlides®, fleXmatrix® kits, and SCiLS autopilot. That means proven methods from substrate to data analysis, with no gaps to troubleshoot and no third-party integration headaches.

Built for SpatialOMx® workflows

Running multimodal spatial experiments means keeping variability low across every step. The **superlimator**'s reproducibility (<5% CV) holds up across long studies and multi-instrument collaborations, so your sample prep doesn't become the weak starting point for getting to your data.



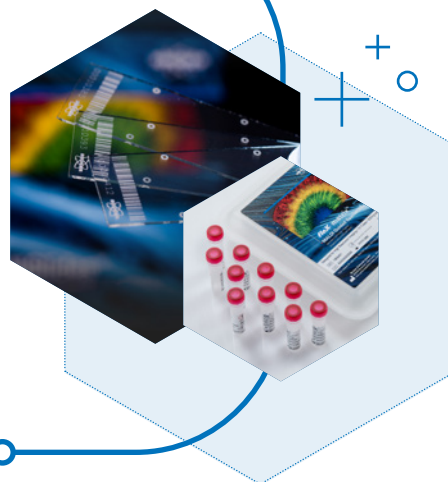
The **superlimator** - streamline imaging sample preparation with push-button sublimation and recrystallization

READ TECHNOTE



Start with confidence

Proprietary IntelliSlides and validated fleXmatrix kits eliminate starting material variability for unmatched consistency

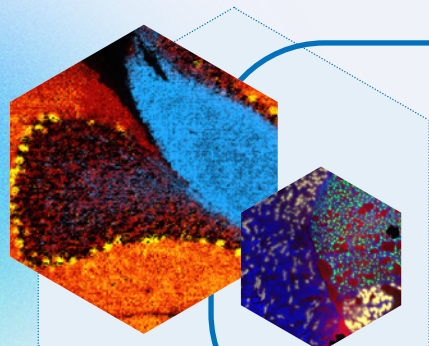


Matrix application

Automated matrix application by Bruker **superliminator** with default methods

MALDI Imaging

timsTOF fleX and neofleX™ with SCiLS autopilot and default imaging methods



SCiLS

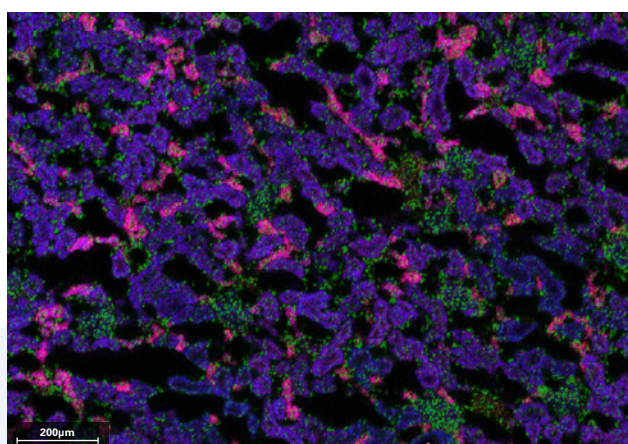
Data analysis

Turn data into knowledge with SCiLS Lab -
The world-leading software for analysis of mass
spectrometry imaging data

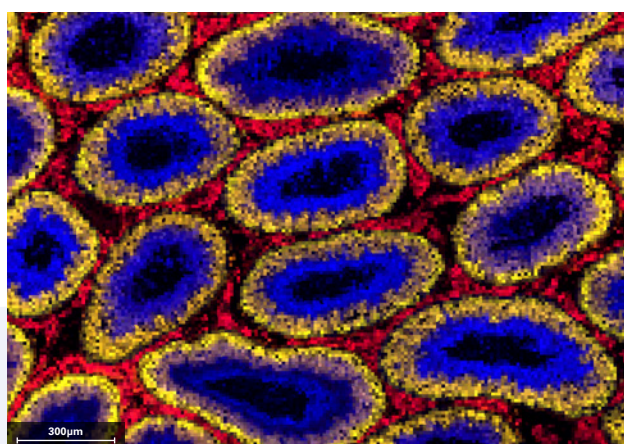


Sample prep that keeps pace with your imaging. Consistent matrix. Consistent data. From day one.

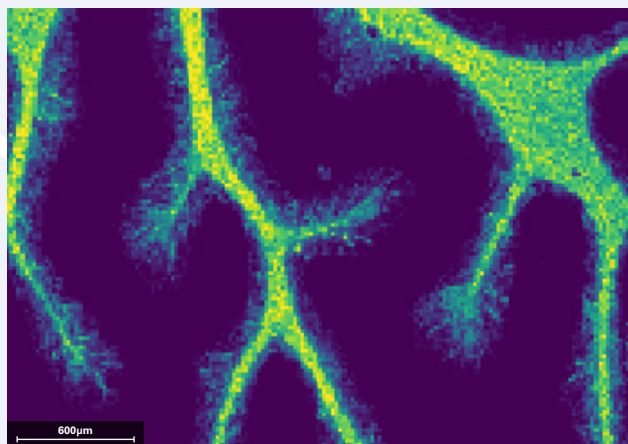
Whether you're mapping drug distributions in tissue, profiling lipids in brain sections, or running multiplexed protein panels, your images are only as good as your matrix coating. The **superlimator** delivers <5% CV across instruments and operators, so your first slide looks like your fiftieth. Solvent-free sublimation preserves spatial fidelity for small molecules. Proven workflows mean you're imaging on day one, not troubleshooting your sample prep.



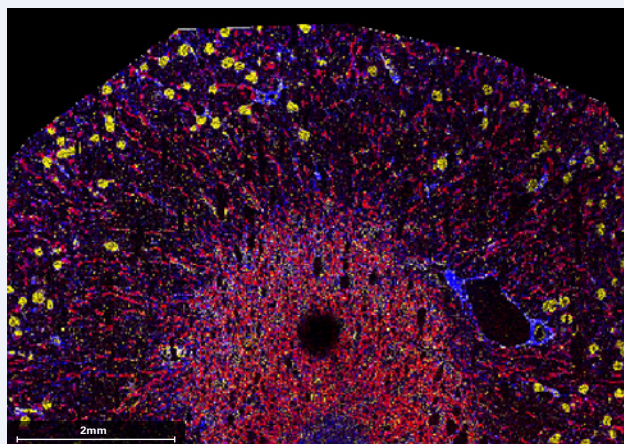
134.0446 m/z $\pm$ 10 ppm 0% 100% 217%
 279.2277 m/z $\pm$ 10 ppm 0% 100% 292%
 281.2426 m/z $\pm$ 10 ppm 0% 100% 198%



796.5268 m/z $\pm$ 10 ppm 2% 100% 148%
 809.5882 m/z $\pm$ 10 ppm 0% 100% 127%
 821.5319 $\pm$ 10 ppm 24% 100% 141%



844.655 m/z $\pm$ 40 ppm 0% 100% 124%



Na/K ATPase-1 - 1222.7906 m/z $\pm$ 15 ppm 0% 100% 716%
 VIM (Vimentin) - 1230.8406 m/z $\pm$ 15 ppm 20% 100% 266%
 Collagen-1A1 (COL1A1) - 1234.8606 m/z $\pm$ 15 ppm 0% 100% 530%

Ion images from samples prepared with **superlimator** and measured on timsTOF fleX or neoflex by different operators: testis (DHAP), kidney (NEDC), brain (NEDC), kidney (HiPLEX, CHCA).

The **superlimator** seamlessly integrates with Bruker's MALDI Imaging solutions, supporting SCiLS autopilot with IntelliSlides and providing a comprehensive imaging solution on the MALDI-TOF/TOF systems and timsTOF fleX systems with microGRID.





Jens Soltwisch

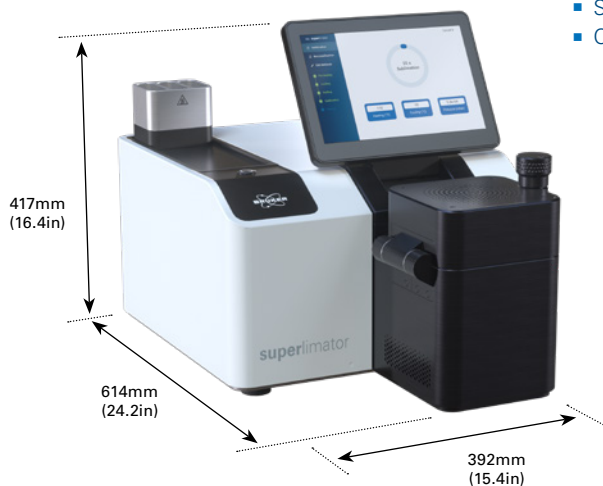
PD, Research Center for Mass Spectrometry Imaging, University Münster

*"The **superliminator** enables the quick and easy, yet very reproducible coating of samples for MALDI Imaging, even for matrices notoriously difficult to sublimate. It is intuitive to operate, easy to clean and consumes very small amounts of matrix. It has become our go-to technology for sample preparation, especially for applications with high spatial resolution."*

Technical Features

Fast	5–10 minutes for standard matrices
Easy	Validated workflows available
Reproducible	< 5% standard deviation of matrix transfer between different matrices and instruments
Efficient	Reliable/reproducible matrix transfer of 75%

- Homogeneous
- Solvent free
- Contamination free



ACT Ecolabel		Bruker	
		Superliminator	
		Sublimator SKU: 1915820 Bremen, Germany	
		Environmental Performance	
			
		Product Recycled/Renewable Content 40% Chemicals of Concern No Electricity Consumed/Day 0.5 kWh Water Consumed/Day N/A Refrigerant GWP Thermoelectric Supported Lifetime 7 years Recyclable Materials* 70% Circularity Support None	
		Environmental Performance Factor 48.5 Certified January 2026	
		Packaging Recycled/Renewable Content 10% Shipping Method Ambient Recyclable Materials* 10%	
		Product Carbon Reporting Reporting Framework None Review N/A Product CO ₂ e Not Available	
		Audit Details 	
		Manufacturing Facility Best Practices 6.0/10 Renewable Electricity 100% Renewable Energy 73%	
		Company GHG Reductions Scope 1/2/3 Tracking Yes/Yes/No Near-Term Target Self-Directed Net-Zero Target Self-Directed	
		Improvements Scope 1+2 Tracking ACT VERSION 2.0 actdatabase.mygreenlab.org/Bruker	

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