

Matrix Vapor Deposition System

iMLayer



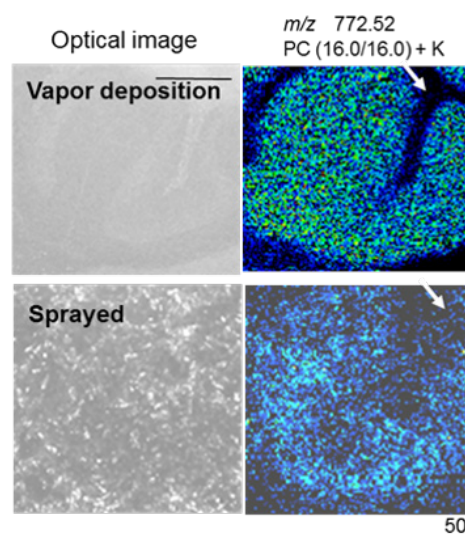
Four Features of iMLayer

- Sublimation generates submicron matrix crystals to preserve resolution.
- Dry coat sample preparation minimizes image smearing.
- Thickness monitoring ensures reproducible sample preparation.
- Simple push-button interface makes anyone an expert.

As mass spectrometry imaging (MSI) by Matrix Assisted Laser Desorption Ionization Time of Flight (MALDI-TOF) gains more widespread acceptance for pathology and drug distribution applications, a simple, reproducible method for sample preparation is necessary.

iMLayer is a push-button matrix vapor deposition system for MALDI-TOF MSI for automated tissue sample preparation. Using sublimation and thickness monitoring, iMLayer automatically coats tissue slices with a layer of super-fine matrix crystals at a reproducible thickness set by the user. Unlike “wet” methods, such as spraying where heterogeneous matrix crystals can be as large as 60 μm , the submicron sized crystals from iMLayer preparation preserve the details of the tissue when acquiring high resolution MALDI images (10-30 μm).

iMLayer promotes reproducible sample preparation, crystal clear images and an ease of use that will turn any level of user into an expert.



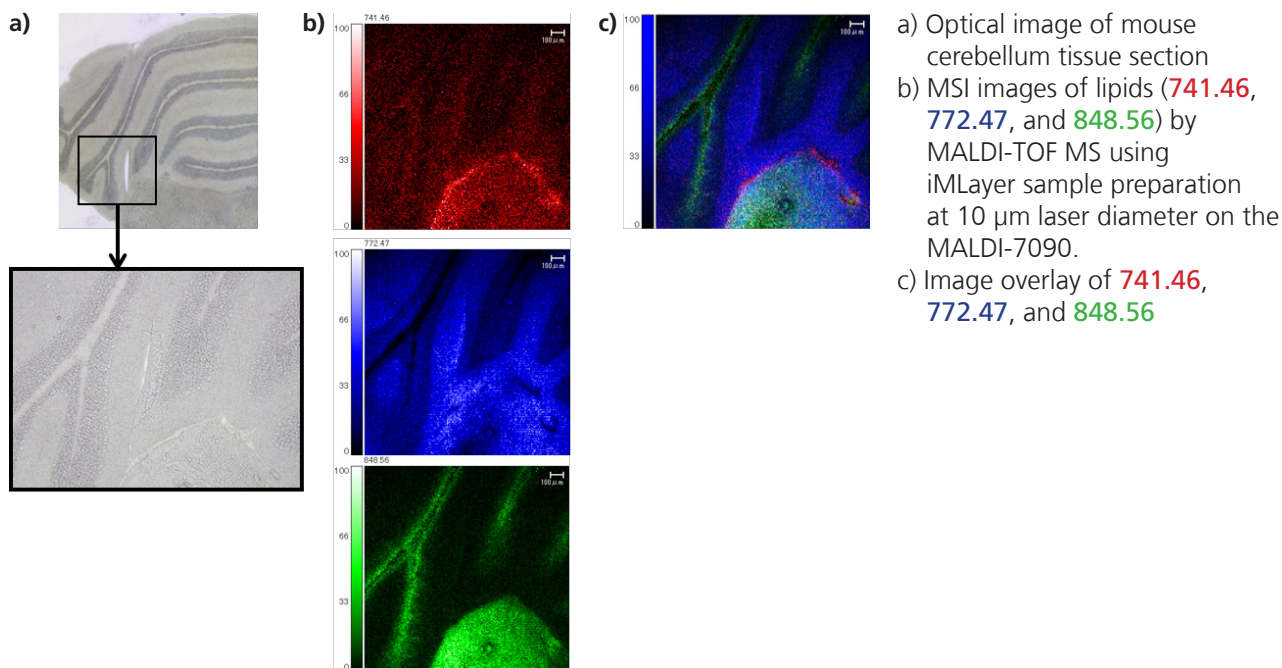
Compared to spray methods which result in matrix crystals that can be larger than the laser diameter of the MALDI instrument, iMLayer which uses vapor deposition generates submicron particles allowing researchers to feel confident in the defined spatial resolution.

Imaging Sample Preparation Made Easy



iMLayer turns the complicated, user-dependent sample preparation for MALDI imaging into a reliable and reproducible method for all levels of users. Laser-based thickness monitoring ensures consistent deposition of matrix and touch-screen operation allows users to call and execute matrix application in just a couple of clicks.

Example: 10 μm Images of Mouse Cerebellum



iMLayer, as a stand alone instrument, can be used with any MALDI-TOF MS. By providing a highly reproducible homogeneous coating of submicron matrix crystals to the tissue slice, the iMLayer will make the high-resolution imaging capabilities of high-performance instruments such as Shimadzu's MALDI-7090 truly shine.



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