

The TriVersa NanoMate is the latest in chip-based electrospray ionization technology from Advion. It combines the benefits of liquid chromatography, mass spectrometry, chip-based infusion, fraction collection, and direct surface analysis into one integrated system. It allows analysts to obtain more information than with LC/MS alone.

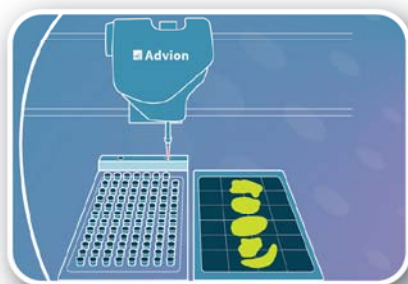
LESA® - Liquid Extraction Surface Analysis

More analytes and higher sensitivity

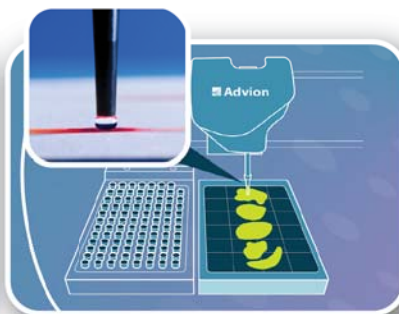
Developed in collaboration with Oak Ridge National Laboratory*, the liquid extraction surface analysis (LESA) capability of the TriVersa NanoMate® enables simple, direct nanoESI mass spectrometric analysis from a variety of surfaces. Benefits of the technique include:

- Speed & Simplicity - no sample preparation
- More structural information - long, stable nanoESI
- Sensitivity - lower detection limits than other surface analysis techniques
- Broad compound coverage - see analytes missed by MALDI

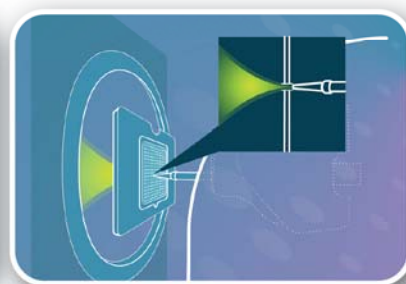
How LESA Works



The TriVersa NanoMate picks up a pipette tip from the tip rack, then aspirates extraction solvent from the reservoir.



The robot brings the extraction solvent into contact with the surface of the sample. The analyte is extracted from the surface.



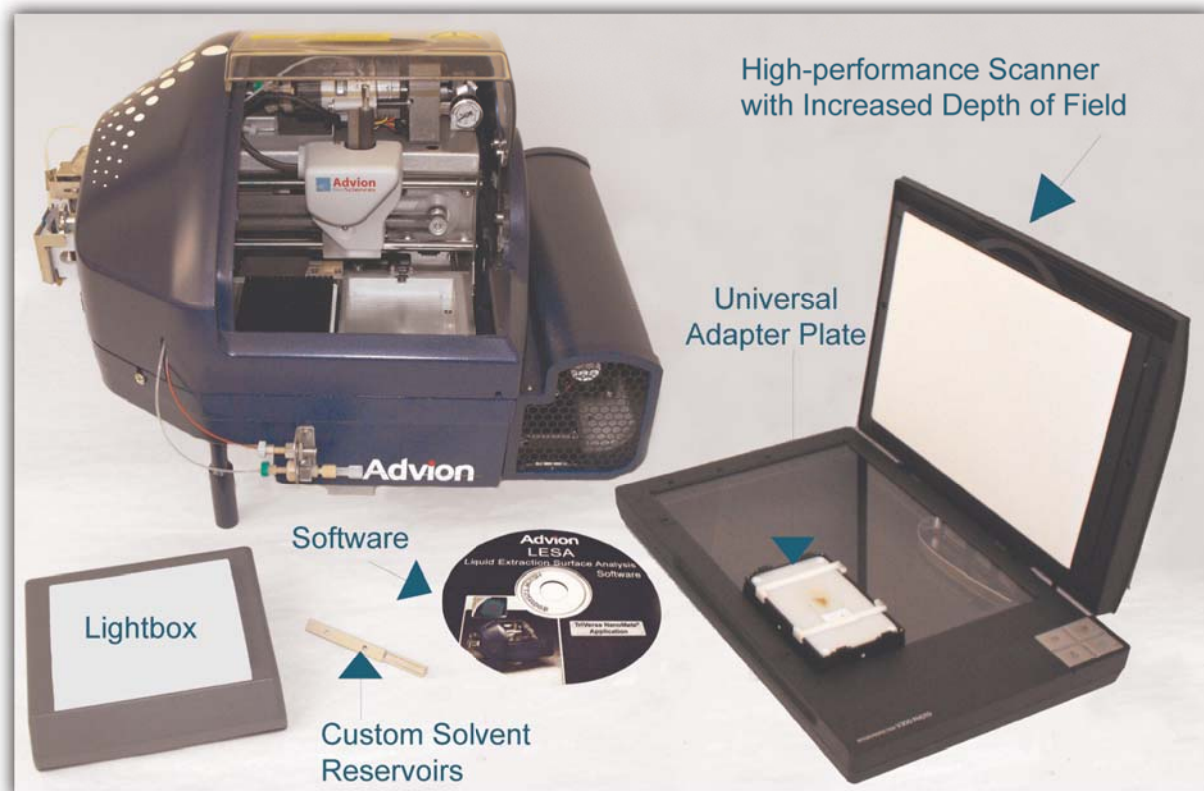
The solvent is retracted into the pipette tip and is analyzed by chip-based infusion.

Analyze direct from any surface with extractable analytes such as:

- Thin tissue sections by LESA profiling
- TLC plates and other planar separation media
- Dried blood spots (DBS) on paper
- Analyze MALDI plates for complementary information by ESI

Obtain more information from more surfaces with LESA.

TriVersa NanoMate with LESA capability



Peer-reviewed Publications

Comparative Lipidomics Profiling of Human Atherosclerotic Plaques
Stegemann, C.; Drozdov, I.; Shalhoub, J.; Humphries, J.; Ladroue, C.; Didangelos, A.; Baumert, M.; Allen, M.; Davies, A.H.; Monaco, C.; Smith, A.; Xu, Q.; Mayr, M.
Circ Cardiovasc Genet [Epub 2011 April 21]

Hemoglobin Variant Analysis via Direct Surface Sampling of Dried Blood Spots Coupled with High-Resolution Mass Spectrometry
Edwards, R.L.; Creese, A.J.; Baumert, M.; Griffiths, P.; Bunch, J.; Cooper, H.J.
Anal Chem. 2010 Mar 15;83(6):2265-70. [Epub 2011 Feb 22]

Correlation of Skin Blanching and Percutaneous Absorption for Glucocorticoid Receptor Agonists by Matrix-Assisted Laser Desorption Ionization Mass Spectrometry Imaging and Liquid Extraction Surface Analysis with Nanoelectrospray Ionization Mass Spectrometry
Marshall, P.; Toteu-Djomte, V.; Bareille, P.; Perry, H.; Brown, G.; Baumert, M.; Biggadike, K.
Anal. Chem. 2010 Sep 15;82(18):7787-94. [Epub 17 Aug 2010]

Fully automated liquid extraction-based surface sampling and ionization using a chip-based robotic nanoelectrospray platform
Kertesz, V.; Van Berkel, G.J.
J Mass Spectrom. 2010 March;45(3):252-60. [Epub 2009 Dec 17]