

MS imaging of a fresh strawberry

using blotting method

Samples with high moisture content, such as strawberries, are difficult to slice into thin sections, especially when the sample is large. To perform MS imaging on these kinds of samples, Hamamatsu developed a large-sized DIUTHAME (60 mm X 40 mm effective area). This paper shows the MS imaging results of a large strawberry using the DIUTHAME blotting method, which does not require thin sectioning.

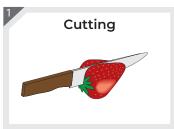
Measurement conditions

Measurement mode: Laser pitch 300 µm

Positive ion, reflectron mode

Sample: Fresh strawberry ("Skyberry" from Tochigi Prefecture), 2L size (35 mm X 40 mm)

Method



To lay the strawberry flat, make two cuts with a knife.

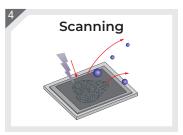
Results



Place DIUTHAME on the cut surface.



Allow the DIUTHAME to soak up the strawberry's components.



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After drying, attach the DIUTHAME on an MTP TLC Adapter (Bruker) and perform MS imaging.

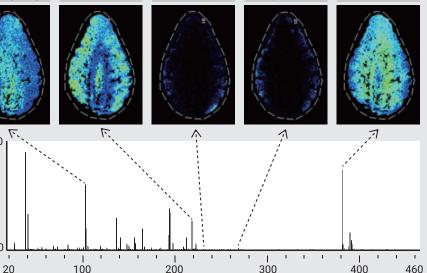
m/z 381

Sucrose [M+K]+

Using the blotting method, the MS *m/z* 104 *m/z* 219 *m/z* 231 *m/z* 271 Hexose [M+K]* Citric acid [M+K]+ Peralgonidin [M]+ Choline [M+H]+ imaging results of a strawberry' s cross-section are shown below. This demonstrates that the DIUTHAME blotting method is very easy and effective for MS imaging of samples difficult to slice into thin sections. Blotting method 7 100 Relative intensity (%)

0

DIUTHAME stained with the sample' s compounds



m/z

Measurements were performed in collaboration with Associate Professor Hirofumi Enomoto, The Department of Biosciences, Teikyo University.

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