

Imaging substances in fruits: Transfer sampling without the need for thin-sectioning

Measurement challenges

Visualizing the distribution of substances in agricultural products by mass spectrometry imaging can be sometimes a problem. For example, when handling large-size fruit with high-water content, the required sample preparation for thin-sectioning is extremely difficult.

Approach

A half-cut strawberry with a 50 mm cross-section was prepared as a sample, and the sample image was then transferred onto Poropare™. Mass spectrometry imaging was then performed without having to do any additional processing.

Benefits from using Poropare

- **Reduces preparation steps**

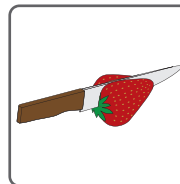
- **Retains positional information**

Clear images of the sugar and acid distribution in the strawberry cross-section were obtained.

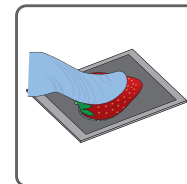
- **High reproducibility**

The same strawberry image was transferred three times and all showed similar results.

Measurement procedure



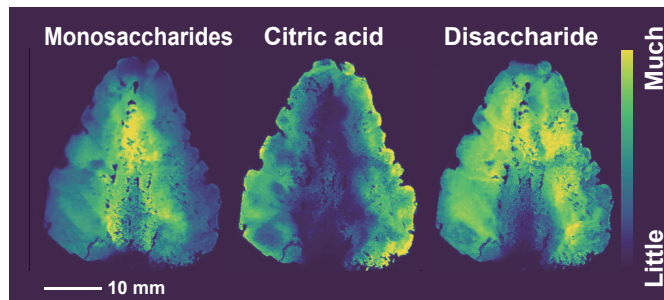
Cut to expose the measurement surface.



Press and transfer the image onto Poropare.



Set the Poropare just-as-it-is, into the instrument !



- Poropare is registered trademark of Hamamatsu Photonics K.K. in China, EU, Japan, UK and USA.
- The application examples described in our product literature are not intended to guarantee suitability for any particular application or the success or failure of any commercial use. No guarantee or license is granted for the enforcement of any intellectual property rights. We will not be held liable for any intellectual property rights issues that may arise with third parties as a result of using this information.
- Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2025 Hamamatsu Photonics K.K.
- Please thoroughly read the precautions and the prohibited uses included in the user manual before installation and use.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

Electron Tube/Laser Applied Sales

314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539-62-5245, Fax: (81)539-62-2205

E-mail: msi-t001@hpk.co.jp