

Leaf surface component imaging: Crush sampling of a leaf with an uneven surface

■ Measurement challenges

MS imaging of metabolites in the direction of the leaf surface is generally limited because thin sectioning parallel to the leaf surface is quite difficult. Even if a leaf is inserted into the instrument directly, its curve and roughness will affect the images.

■ Approach

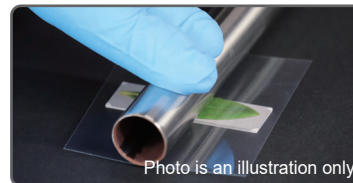
The components inside an entire azalea leaf were transferred by crushing the leaf on Poropare in the direction parallel to the leaf surface. MS imaging was performed without any additional processing.

Benefits from using Poropare

- Visualizes the distribution of metabolites parallel to the leaf surface
- Enables mass spectrometry imaging even for leaves with uneven surfaces

A spatial distribution of components extruded by crushing is retained because of the water absorbability of Poropare.

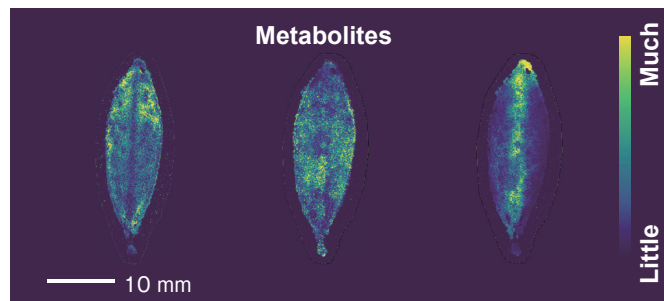
■ Measurement procedure



Crush leaf surface.



Insert 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