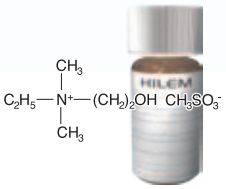
SEM imaging of Plant using Hitachi Ionic liquid HILEM©

SU3500, IM4000, HILEM IL1000

Features

- Preservation of morphology in “hydrated” state under vacuum condition using Hitachi ionic liquid
- Damage less observation with cooling stage
- Smooth cross sectioning of porous structure impregnated with ionic liquid by using cryo-ion milling system

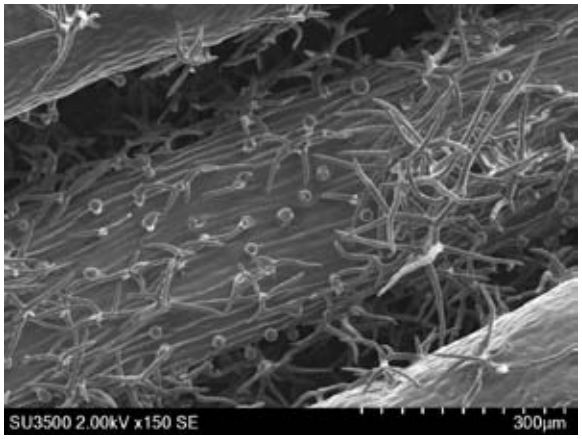


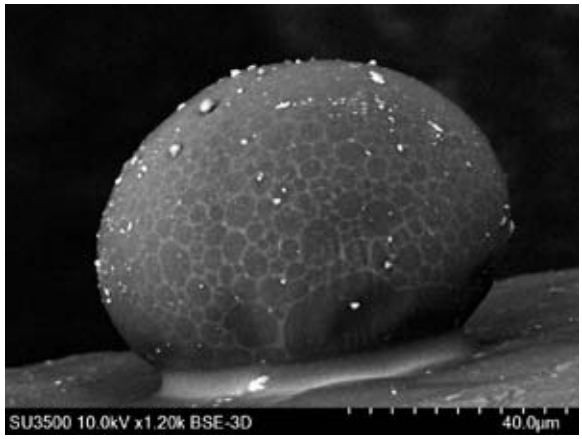
HILEM® IL1000

SU3500

IM4000PLUS

Cryo SEM images of oil glands on plant leaf.

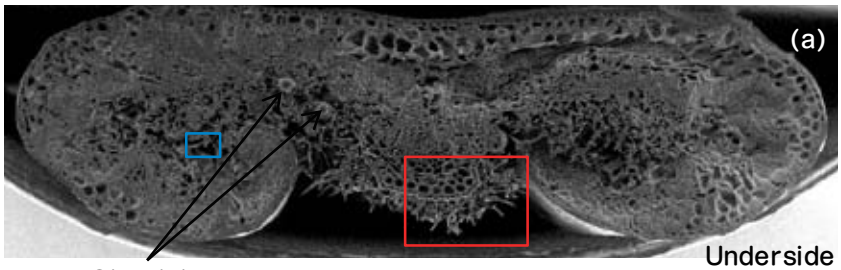


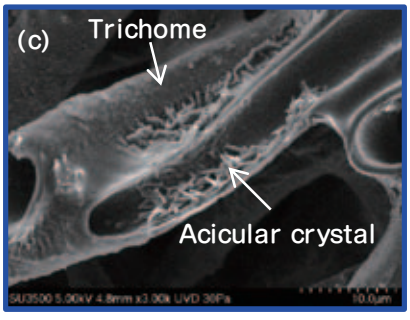


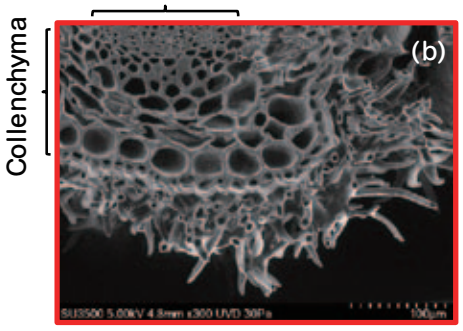
Sample : Rosemary

Observation Instrument : SU3500 + Deben Cool stage, Acc. Vol. : 2 kV (left), 10 kV (right),
Magnification : x150 (left), x1,200 (right), Vacuum condition : High vacuum, Signal : SE(left), BSE (right),
Stage Temp. : -20°C, Sample preparation : 10% IL1000 treatment (4hr)

Cryogenic cross-section ion milling using Hitachi ionic liquid, HILEM® IL1000.







Sample : Rosemary Leaf

Observation Instrument : SU3500
Condition : Acc. Volt. 5 kV, Detection signal SE, Vacuum 30 Pa
Magnification (a)×42, (b)×300, (c) ×3,000,
Cross section Instrument : IM4000PLUS
Condition : Acc. Vol. 3.5 kV, Milling time 3 hr,
Stage mode Swing , Temp. 0°C
Sample preparation : 10 % IL1000 treatment