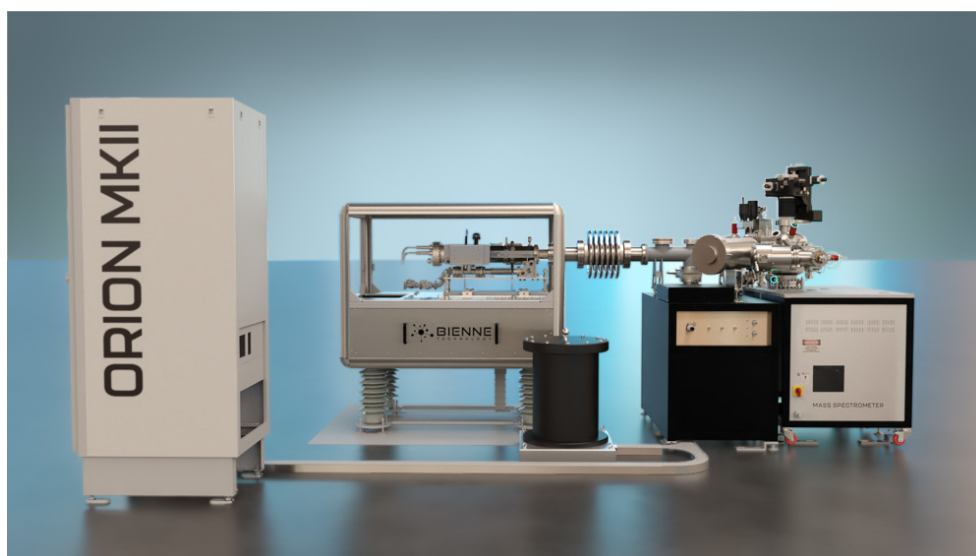


Orion MK II Nano

Nano-projectile SIMS for nanoscale chemical analysis



The Orion MK II systems for Time-of-Flight Secondary Ion Mass Spectrometry access more detail with higher specificity than was previously possible:

- Event-by-event detection for the complete picture from each impact
- Spectra from single events for highly localized chemical relationships
- Co-emission correlation of molecules or fragments
- Rare event detection
- Nanoscale sampling (~ 10 nm)

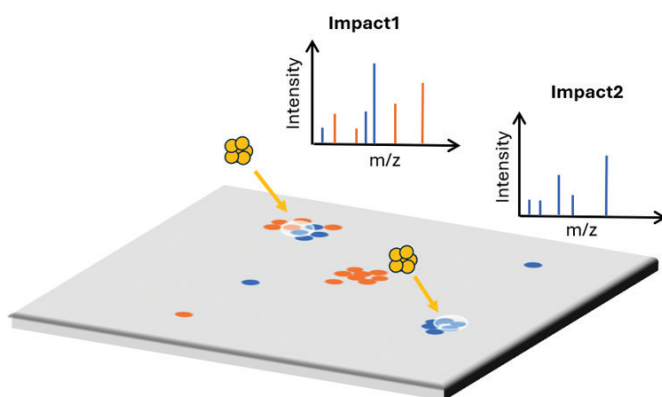


Fig. 1. Schematic of NP-SIMS spatially resolved molecule detection at the nanoscale.

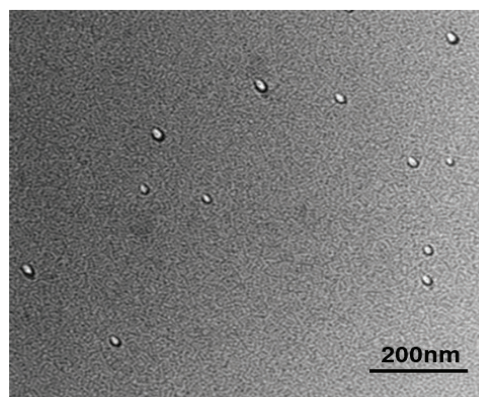


Fig. 2. TEM of nano-projectiles used in NP-SIMS.

Manufactured by



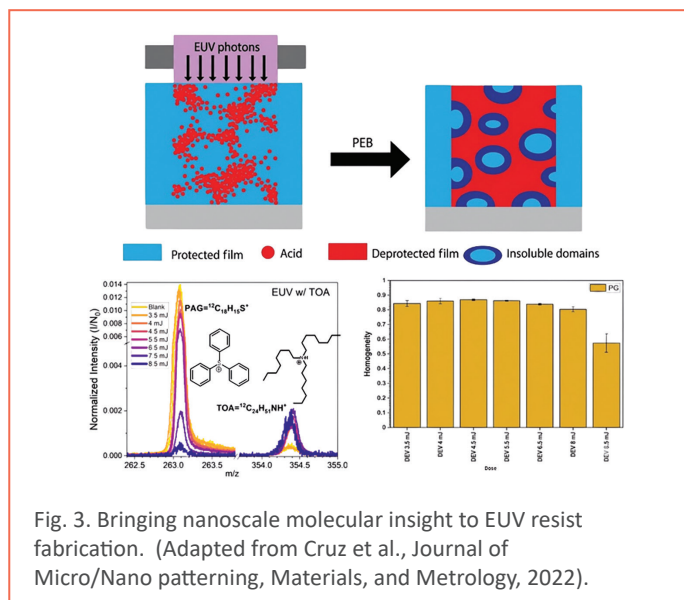
Orion MK II Nano Key technology

Conventional TOF-SIMS instruments strive to reduce the beam size to increase resolution, with all the limitations of low signals and data averaging that this brings with it.

The Orion II MK, using highly-charged and time-tagged nano-projectiles, overcomes these limitations through significantly higher secondary ion yields from every impact, reduced fragmentation and a reduced sampling area of an unprecedented 10 nm.

Bombardment is repeated at 1 kHz, and secondary ions from each impact are collected separately, building up to one million individual mass spectra in just 20 minutes. Data from identical sites can be summed to improve statistics, giving accurate chemical information from nano-size spots.

You can now get full insight of the nanoscale chemistry – without averaging.



Applications

Semiconductor

Quality control with direct identification of nanoscale contaminants

EUV Lithography

Process quality control and defect analysis

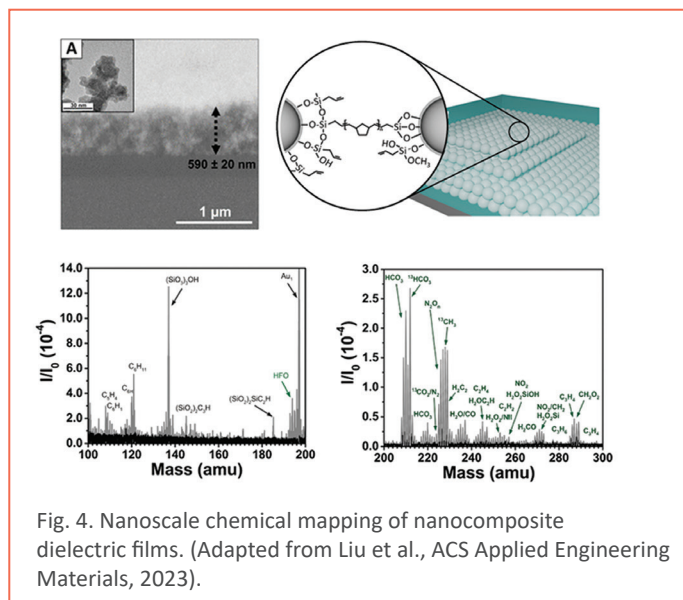
Catalysis

Surface chemistry characterisation at the nanoscale.

Materials Science

Characterisation of nano-composite materials

Multi-user Facilities



Product range

Orion MK II 30kV	Mid-energy NP-SIMS
Orion MK II 100kV	High-energy NP-SIMS
NP-sample	A sample measurement run

**Curious to see how NP-SIMS
can transform your analysis?**

We offer measurement services
on your sample.

Or, contact us to discuss your requirements.

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