SpatialOMx: How spatio-temporal x-omics can improve our understanding of tumor microenvironments

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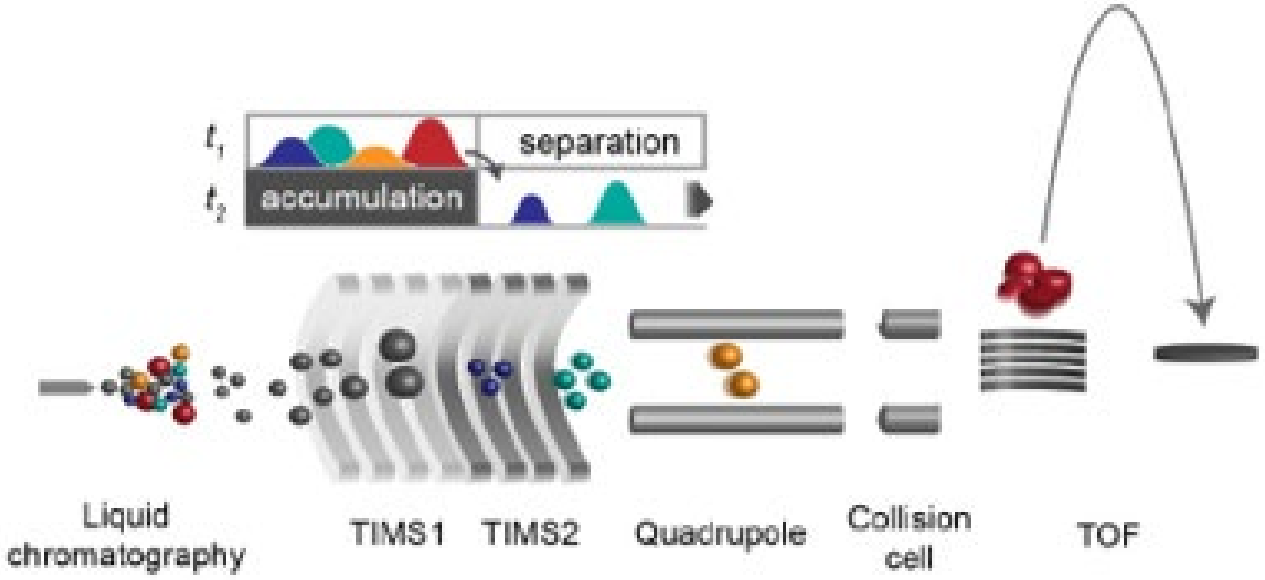
4D-Omics

- timsTOF Pro and timsTOF Flex instruments have trapped ion mobility (TIMS) front end
- Enables ***routine*** measurement of the CCS (size and shape) of molecules
- LC-MS identifications based on mass, retention time, MS/MS spectrum matching and CCS
- Additional separation and size measurement is key in new imaging workflows

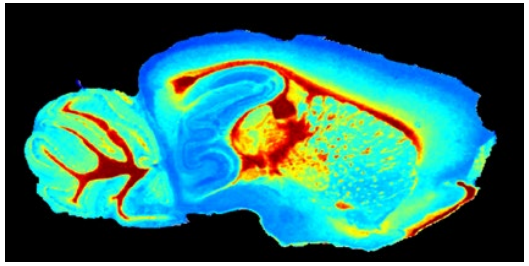


4D-Omics enables CCS-Aware SpatialOMx

- timsTOF Flex enables LC-MS Omics workflows and molecular imaging on the same instrument
- CCS measurements help tie the two workflows together

Left-hand side of the instrument:

- nanoESI capability
- PASEF ready
- High-sensitivity Omics



Right-hand side of the instrument:

- MALDI capability
- 10kHz SmartBeam 3D laser
- High-speed TIMS imaging capability

CCS-Aware SpatialOMx Workflows

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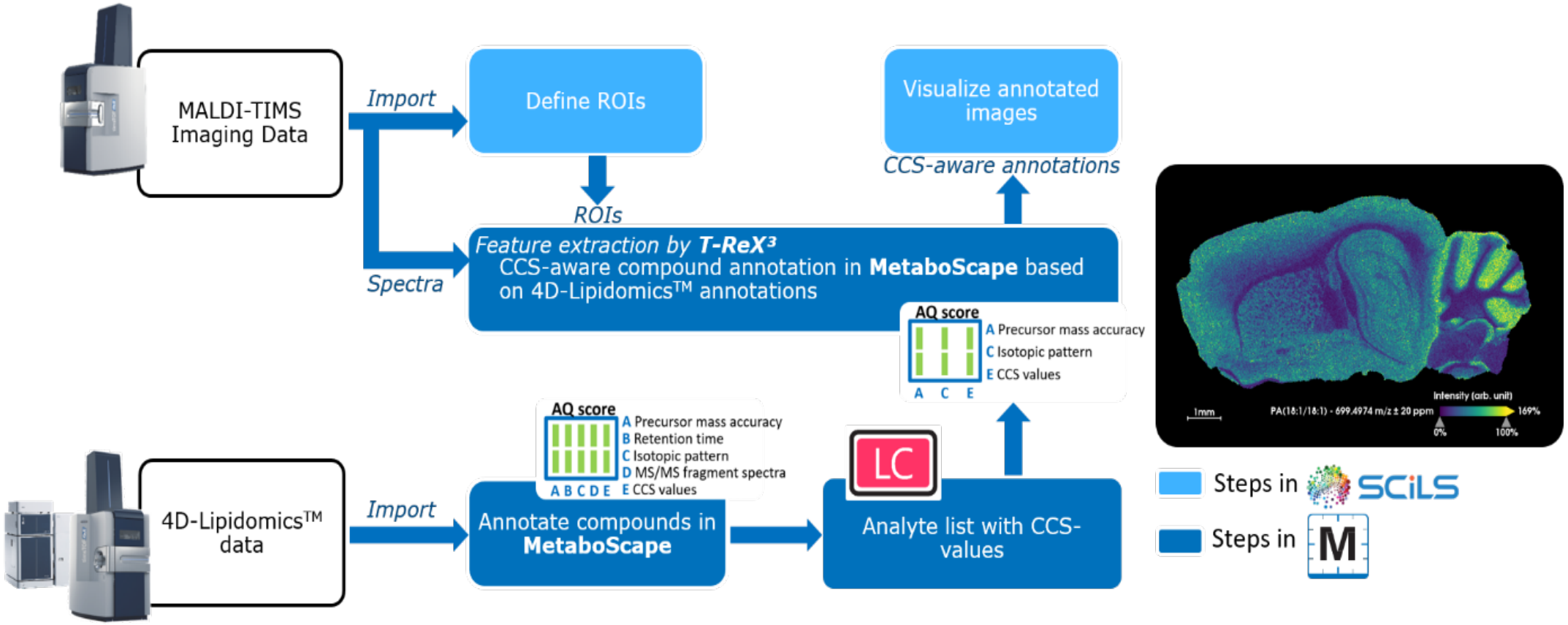
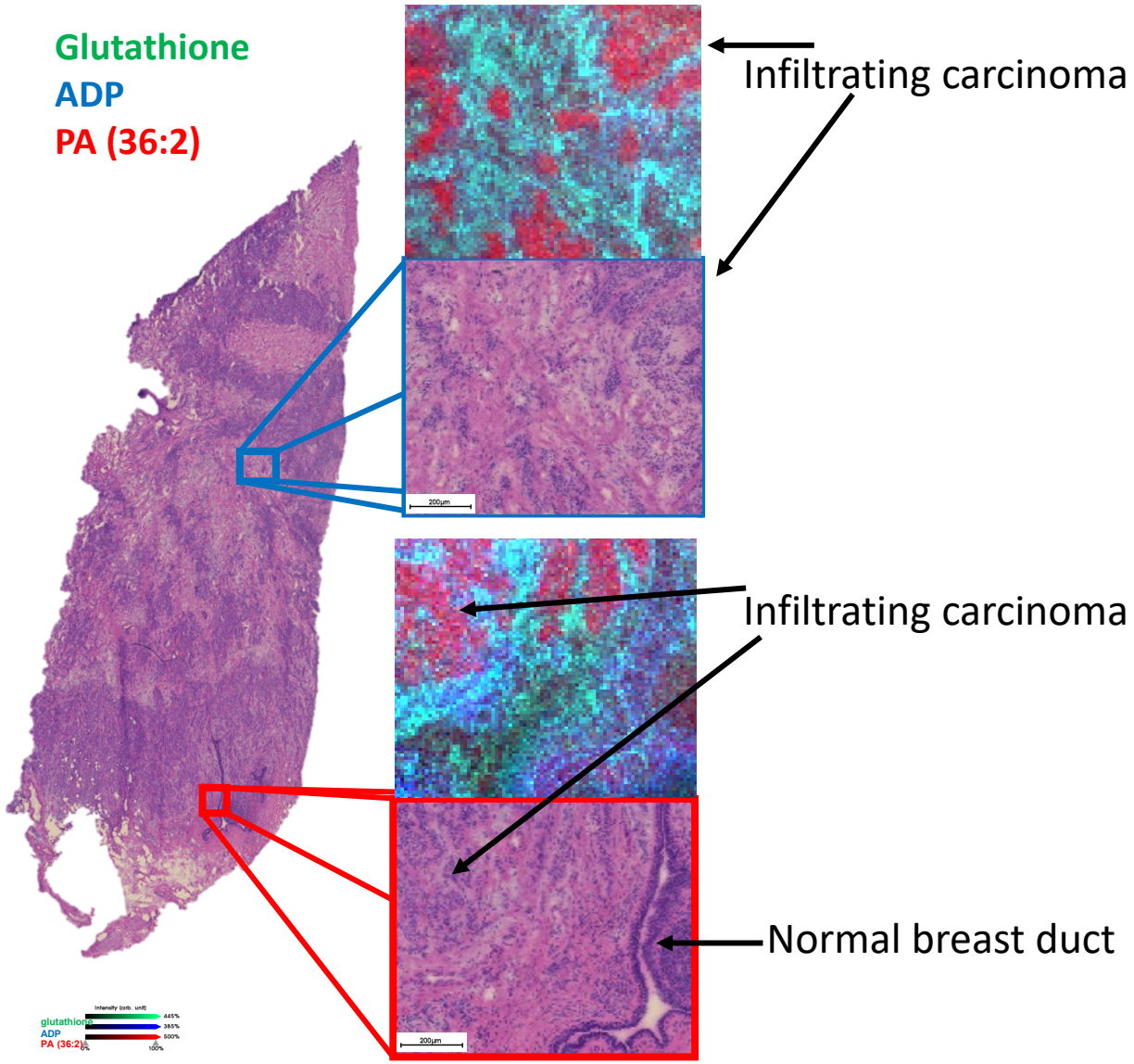
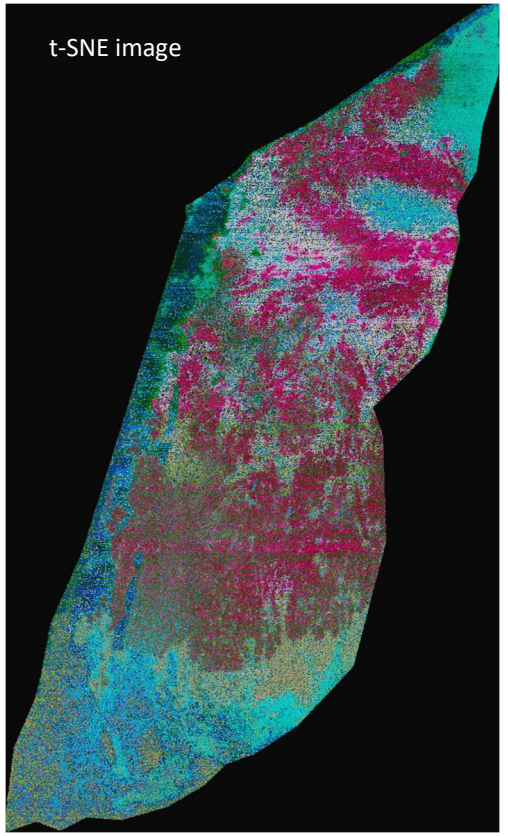


CCS-Aware SpatialOMx Workflows In Cancer Tissues





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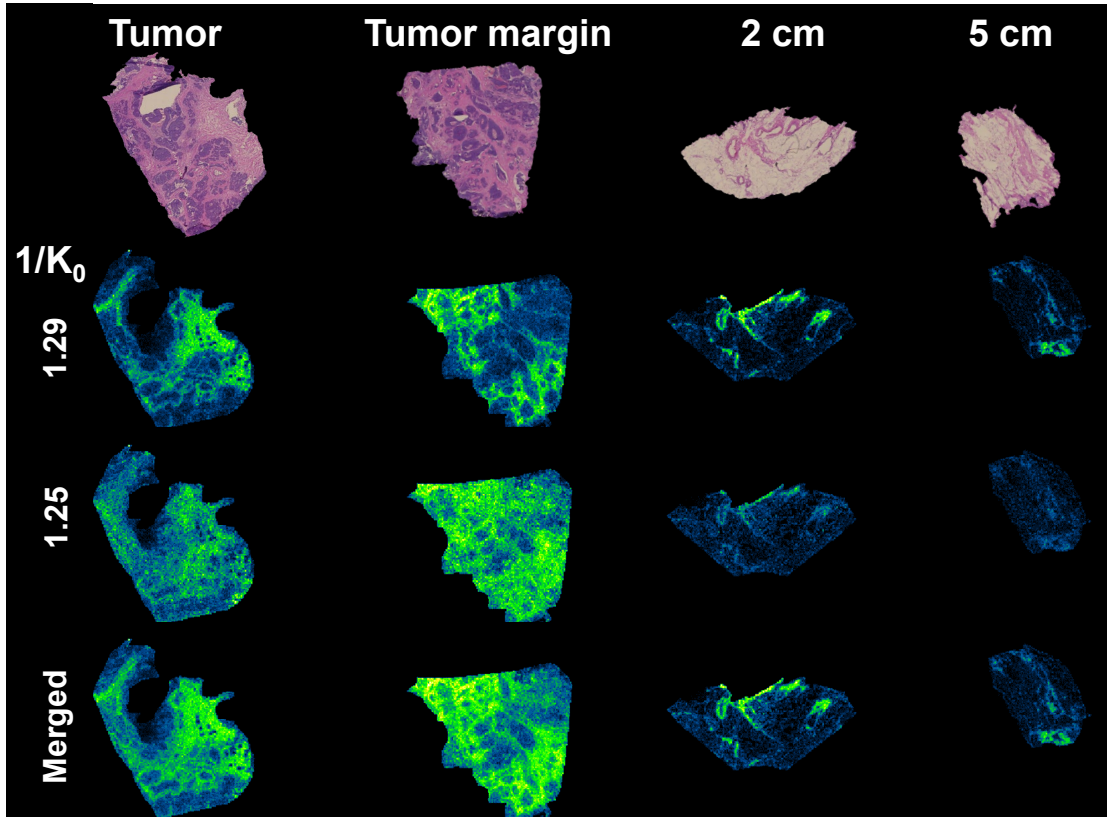
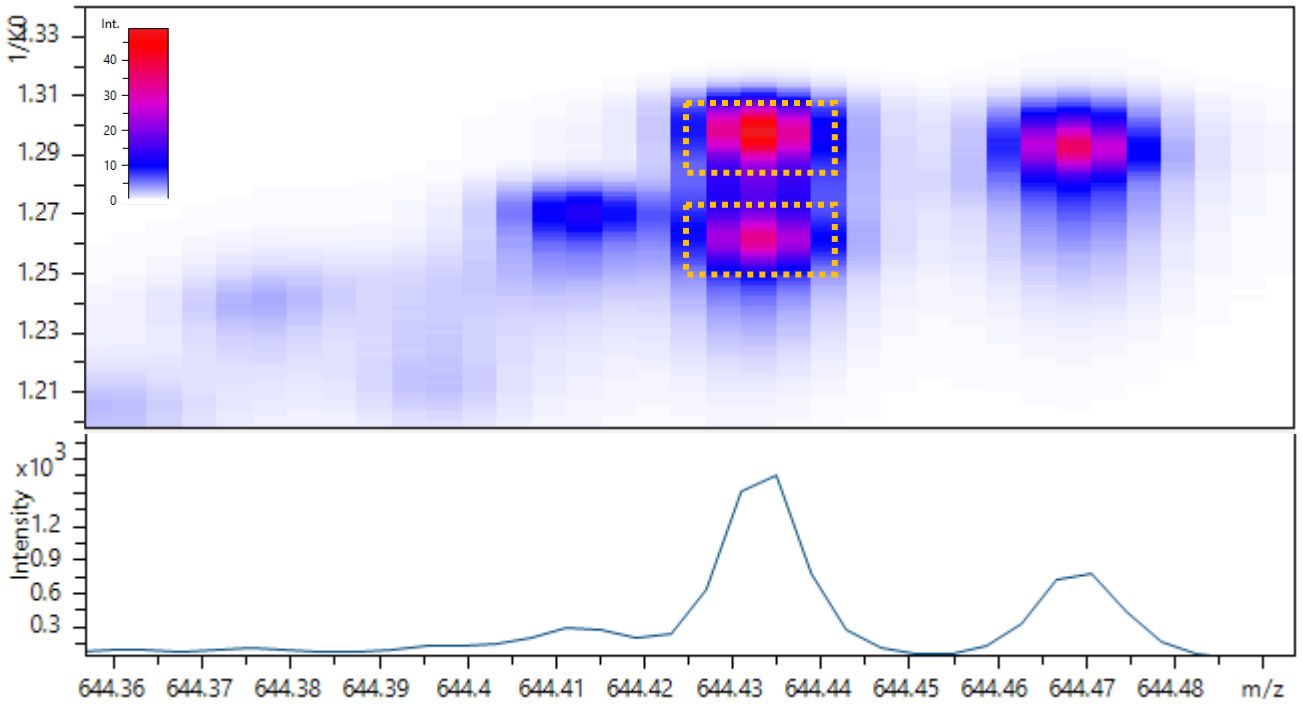
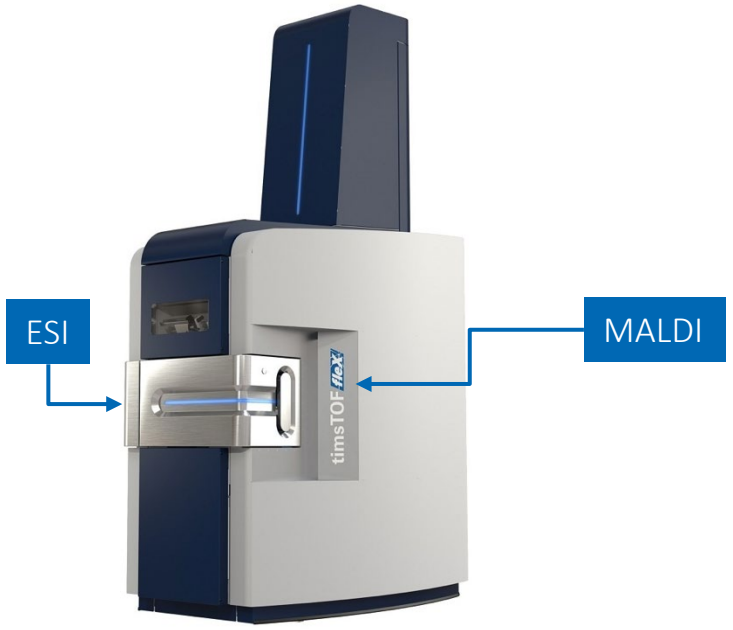


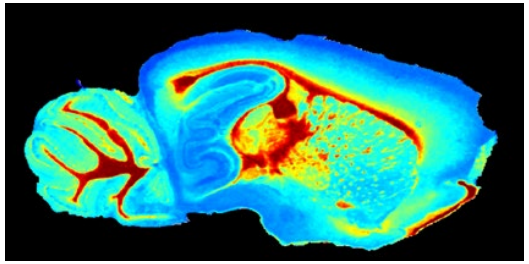


Data on this slide and previous courtesy of Nathalie Y. R. Agar, Ph.D., Director Surgical Molecular Imaging Laboratory,
Dept. of Neurosurgery Brigham and Women's Hospital, and Professor of Neurosurgery and Radiology, Harvard Medical School

4D-Omics with CCS-Aware SpatialOMx

- Discovery of more biomarkers with TIMS separation and tissue imaging combined with LC-MS in SpatialOmx workflows
- More confident identifications using 4D-Omics, including CCS-awar IDs
- Learn more at www.bruker.com





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