MS in the Faculty of Pharmacy - (single cell) proteomics and metabolomics

Jaakko Teppo, PhD (Pharm.)

University researcher

Mass spectrometry and metabolomics research group

People

- Jaakko Teppo (jaakko.teppo@helsinki.fi)
- Juho Heininen
- Essi Heinämäki
- Juha-Pekka Hieta
- Tapio Kotiaho
- Tom Sillanpää

Laboratory

Instruments

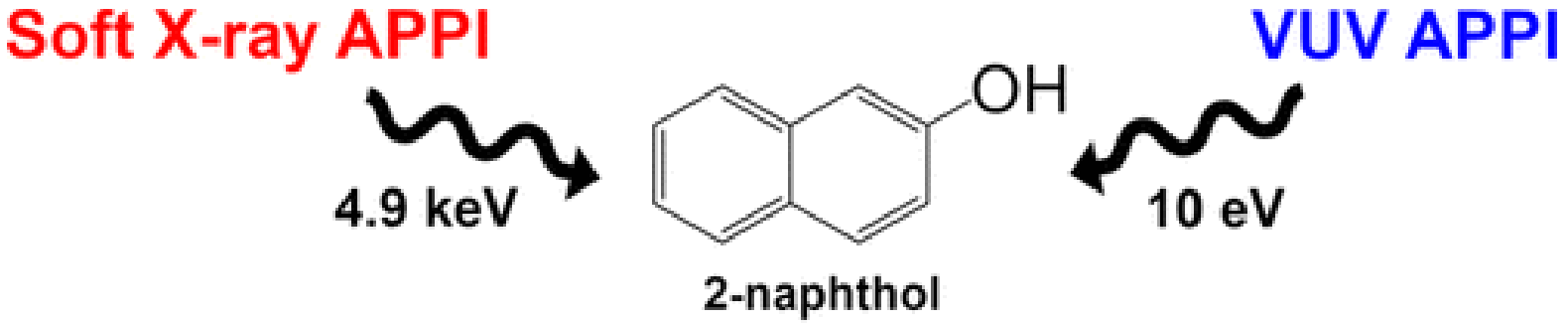
- Waters Xevo QTOF
- Waters TQ-S
- Thermo LTQ Orbitrap XL
- Bruker MicroTOF
- Agilent 6330 ion trap
- Waters Micromass Q-TOF Premier
- UPLC (3), capillary LC (2), GC (1)

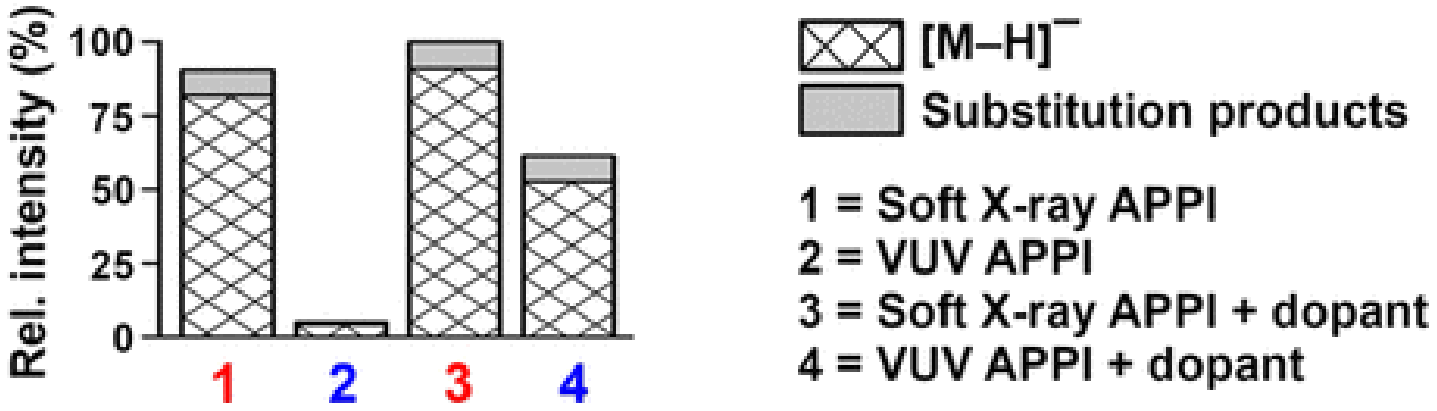
- Thermo Orbitrap Fusion, UltiMate 3000 RSLC, EASY-nLC 1200
  - In Kumpula, co-owned by us and the Department of Chemistry

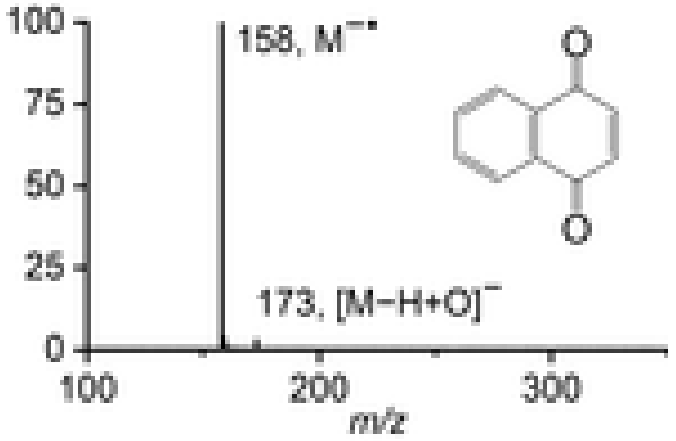
Research

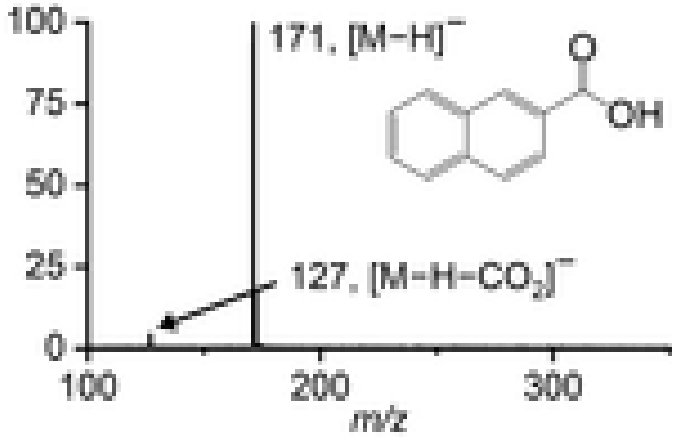
- Method development
- MS imaging
- (Single cell) proteomics and metabolomics

Method development: photoionization



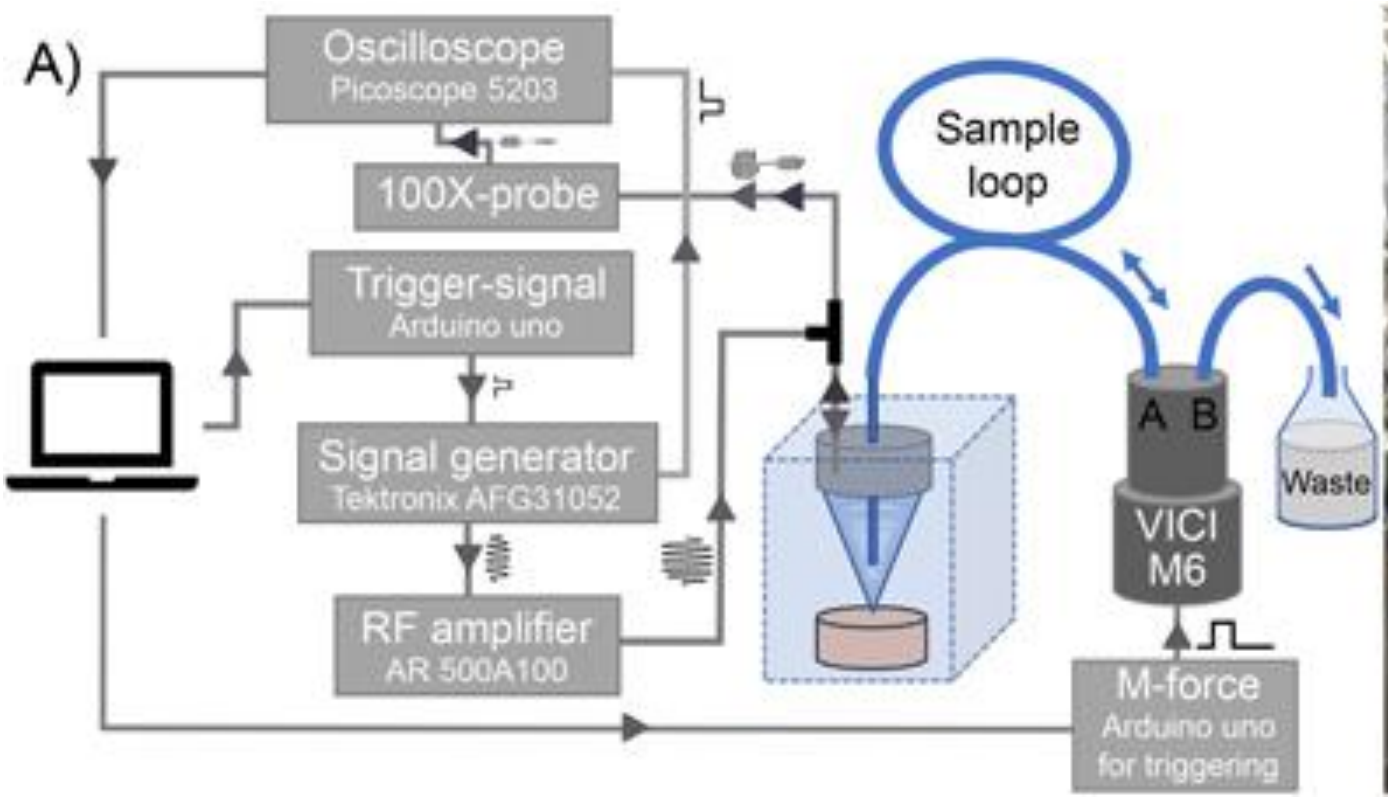


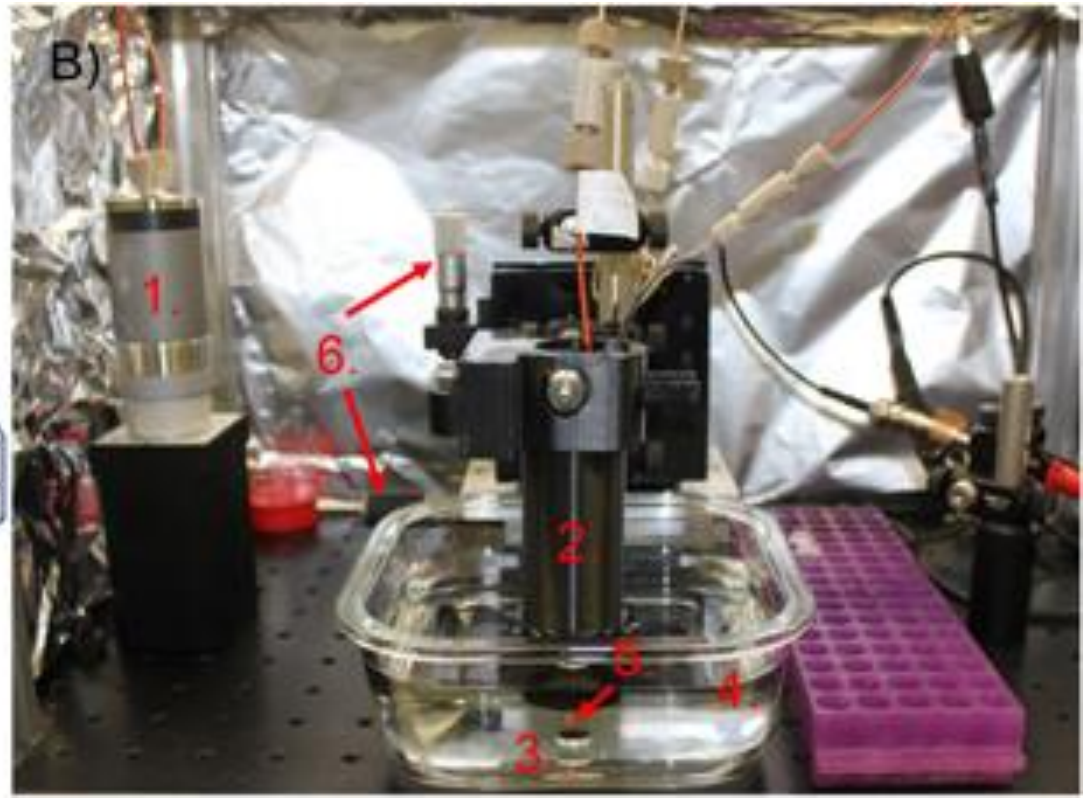




Hieta et al. *Anal. Chem.* 93, 9309–9313 (2021)

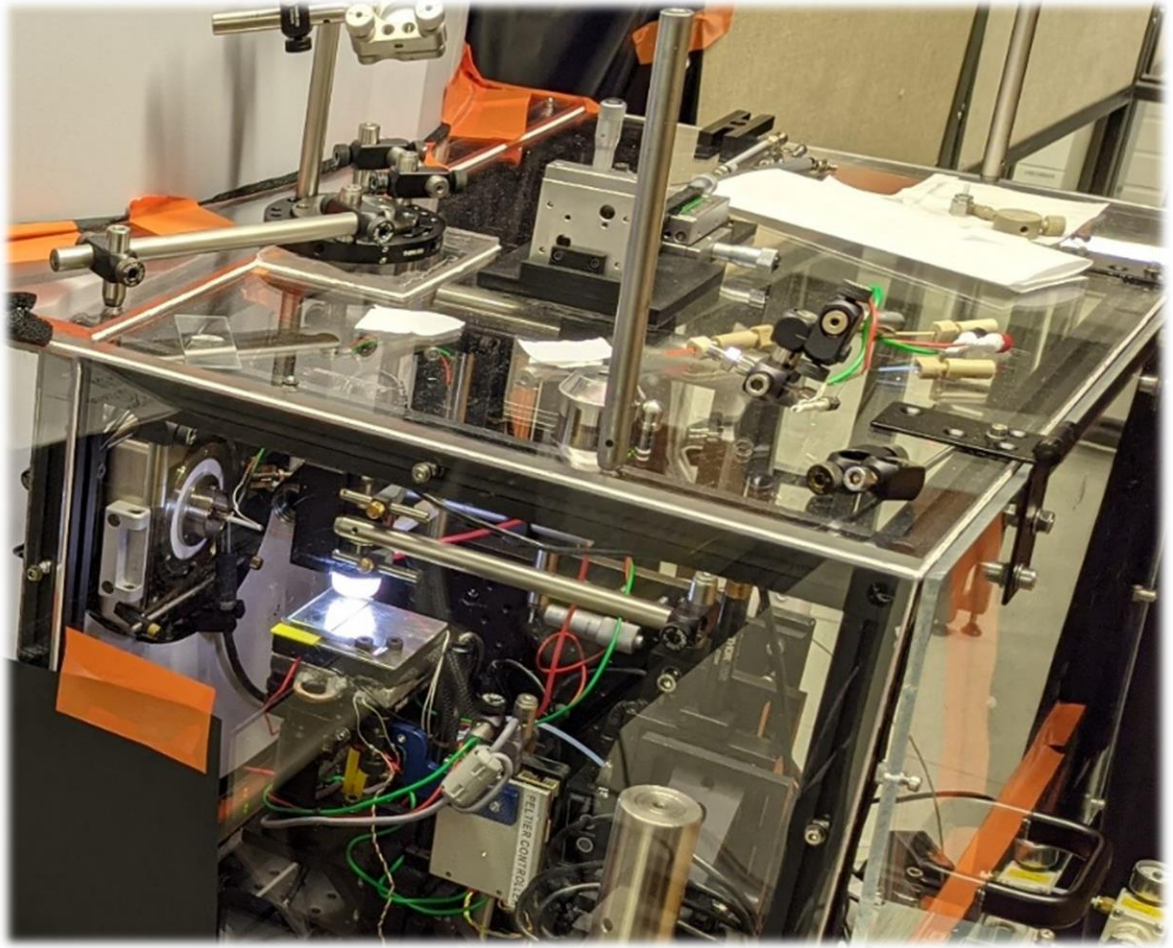
Method development: ultrasound sampling

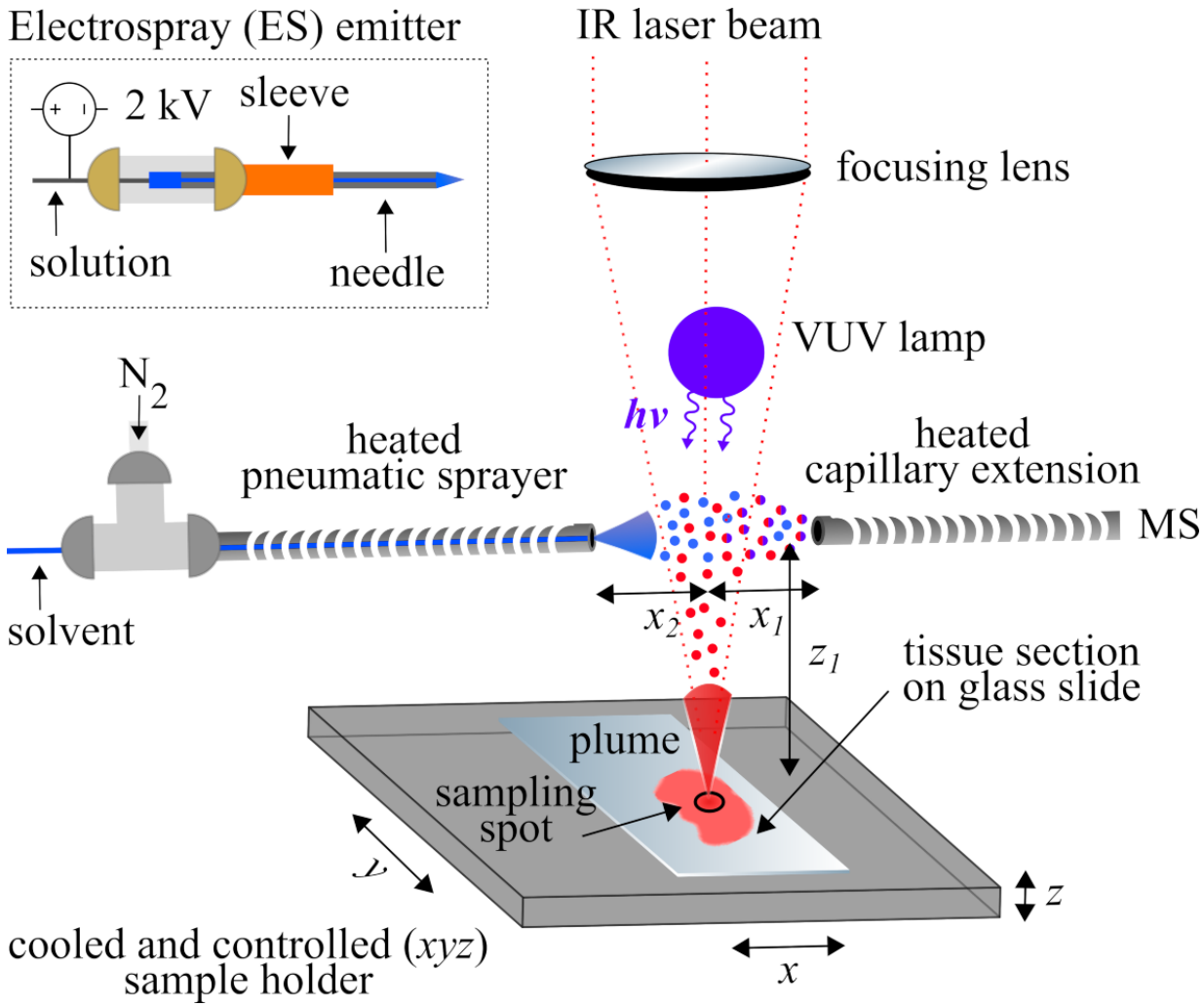




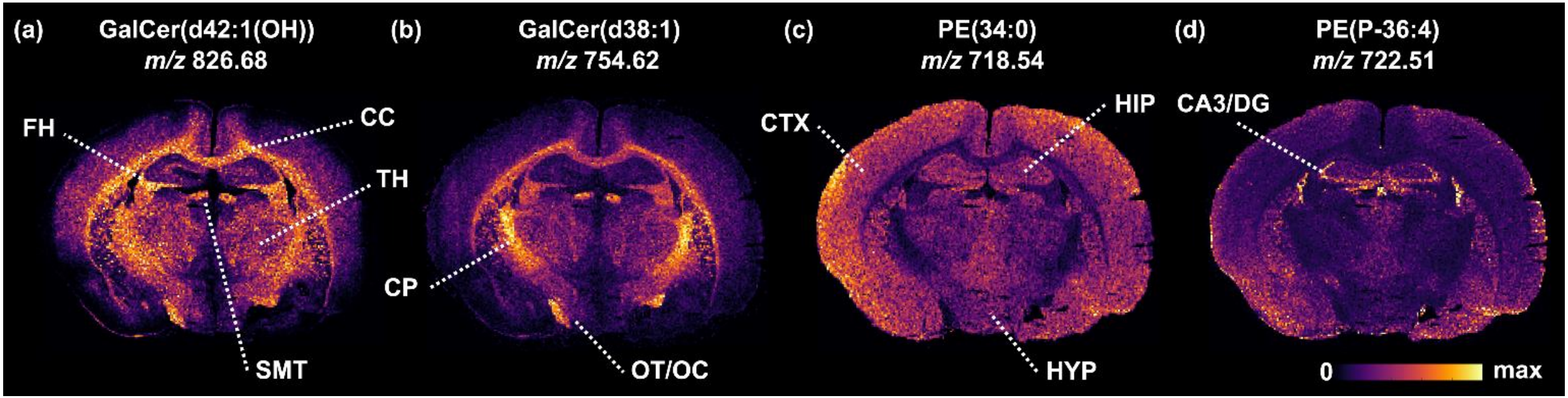
Sillanpää et al. *J. Appl. Phys.* 134, 104901 (2023)

MS imaging

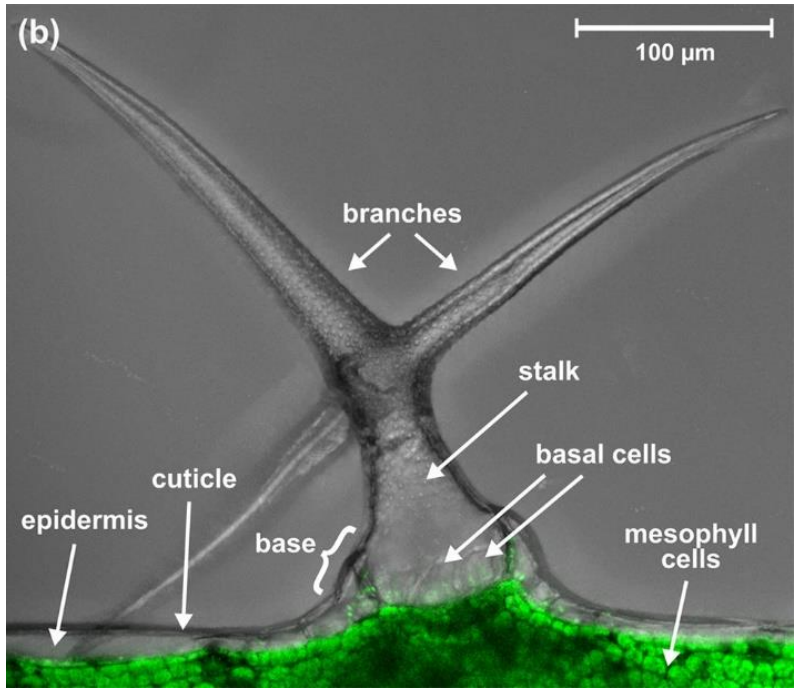


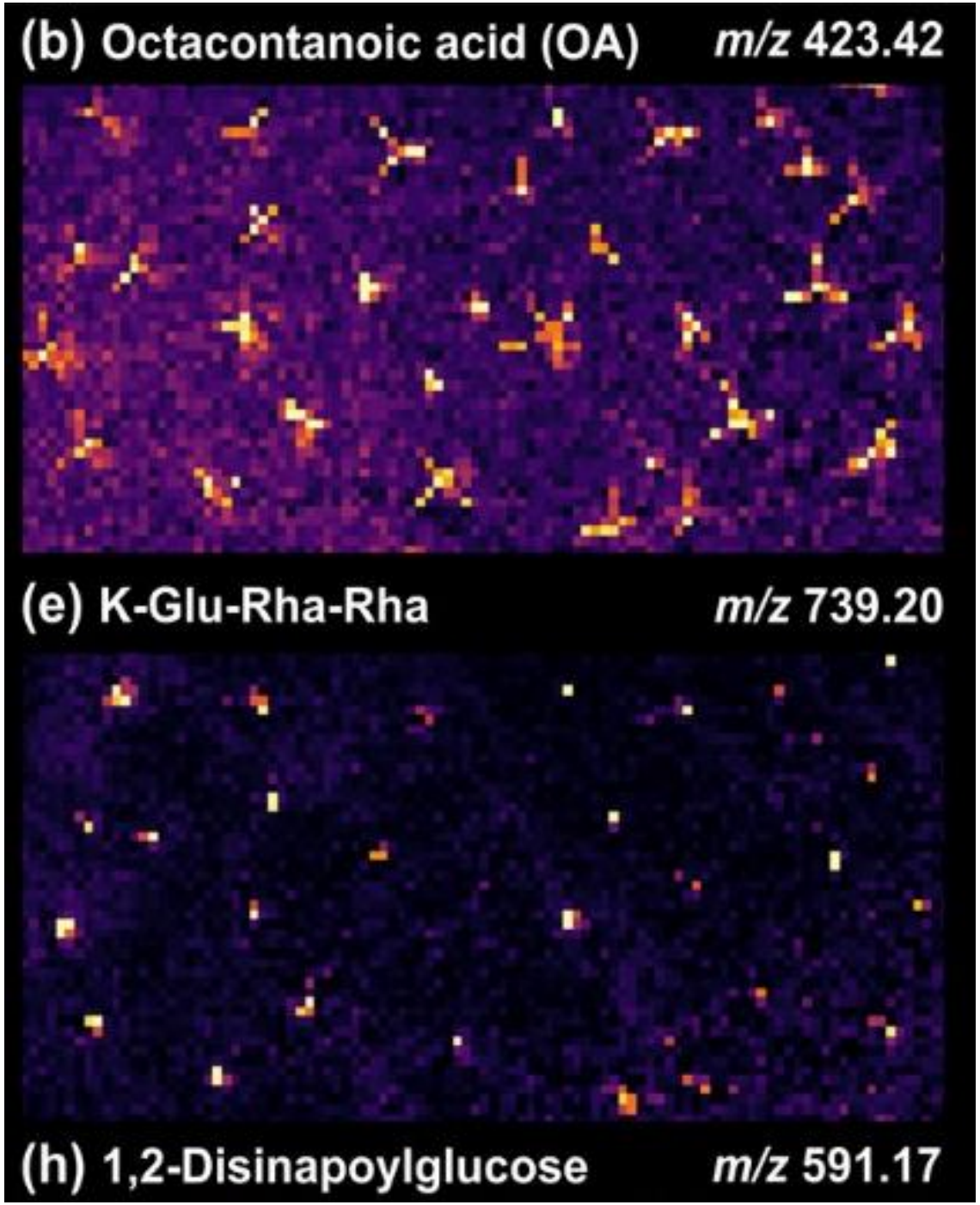


Hieta et al. *Anal. Chem.* 92, 13734–13741, 2020



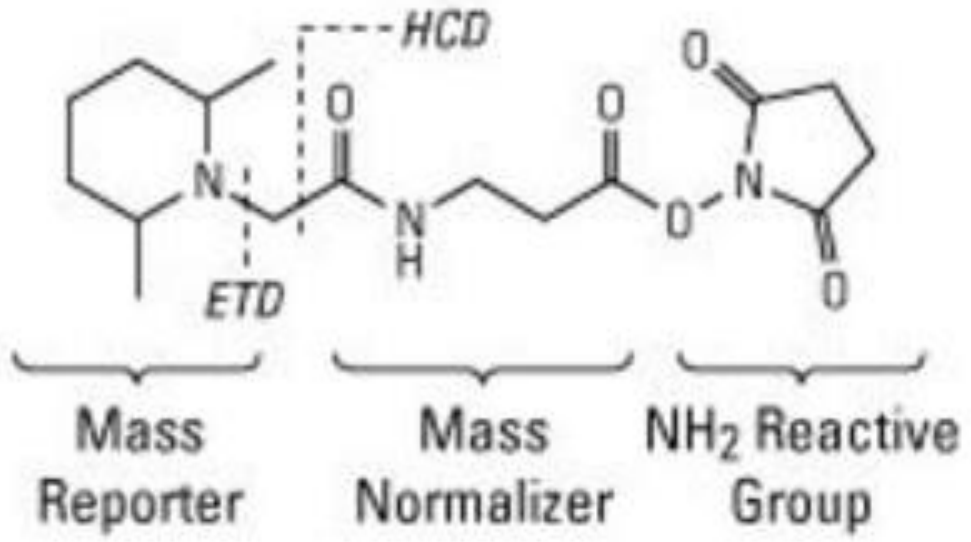
Hieta et al. *Anal. Chem.* 92, 13734–13741, 2020





Hieta et al.
J. Am. Soc. Mass Spectrom.
32, 2895–2903 (2021)

Proteomics and metabolomics



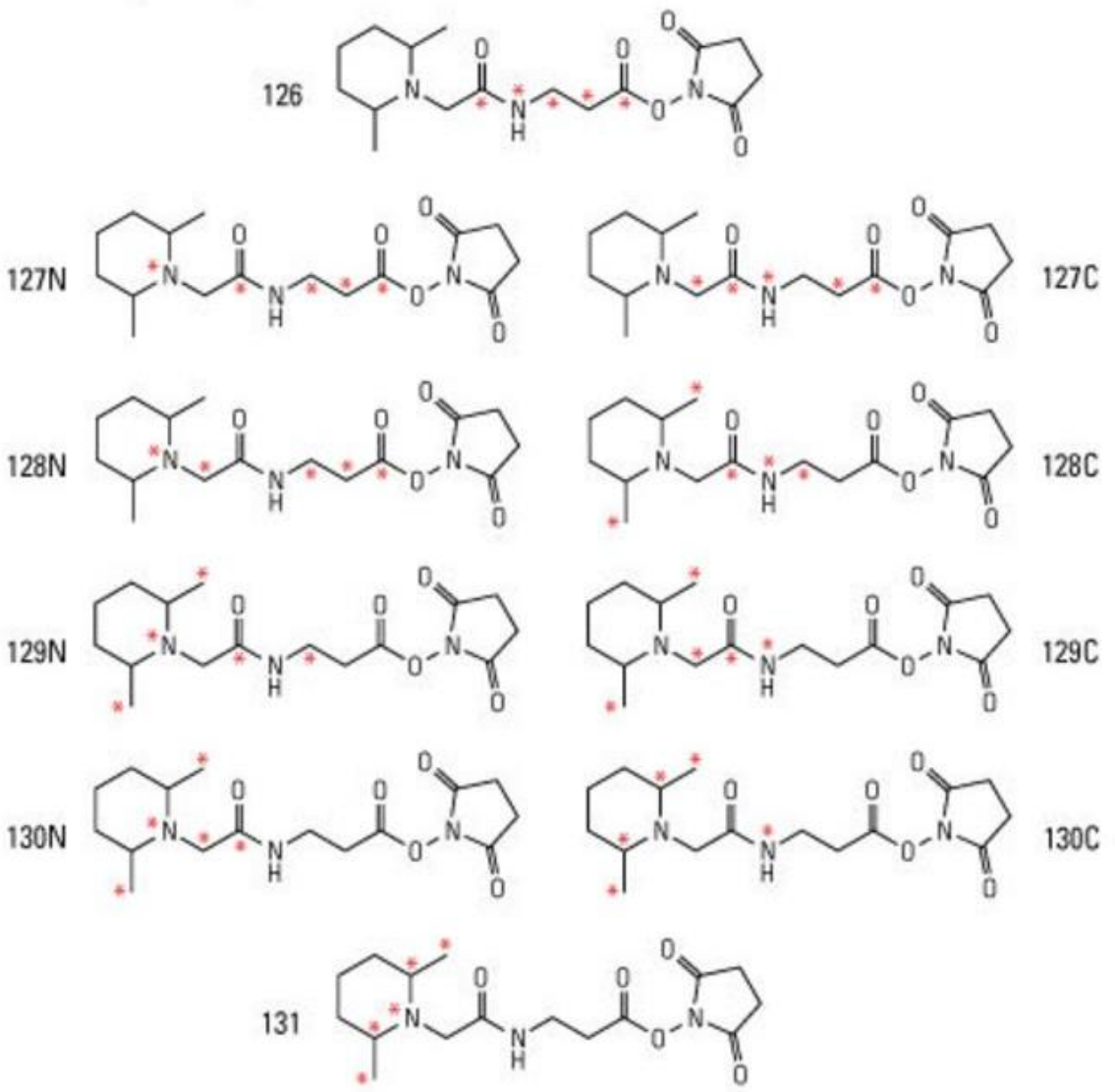
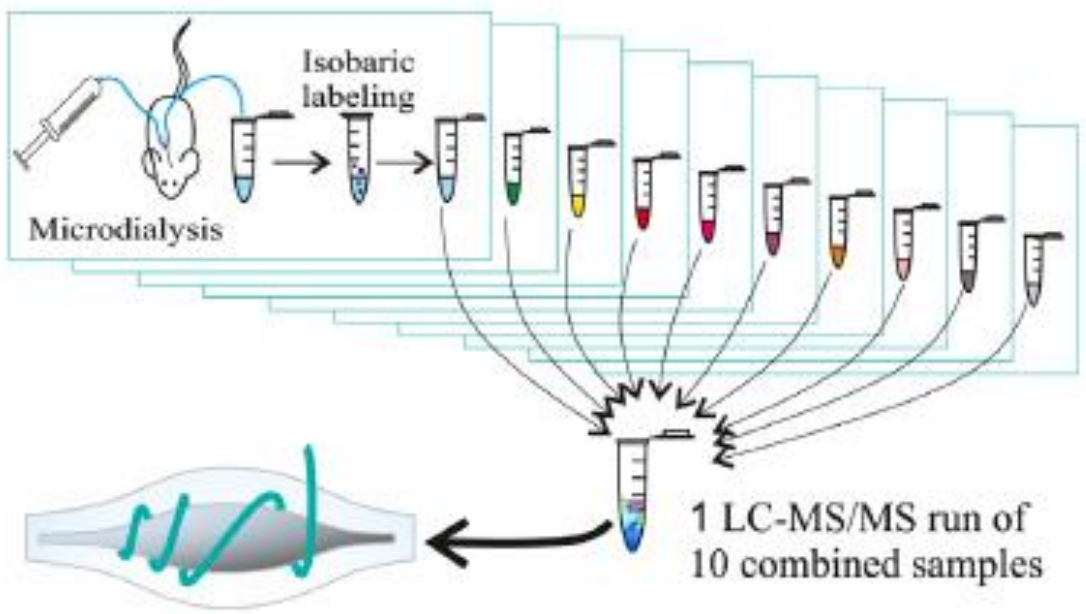
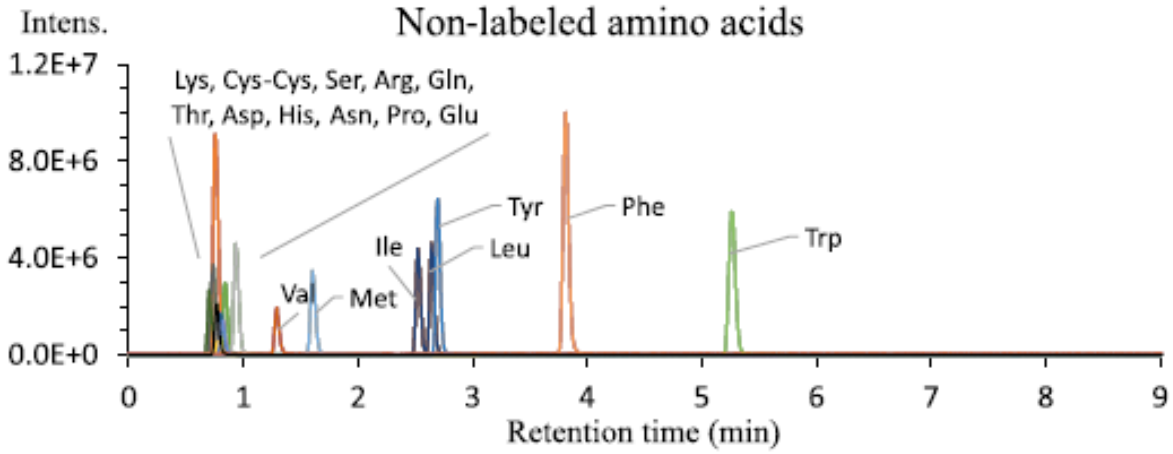
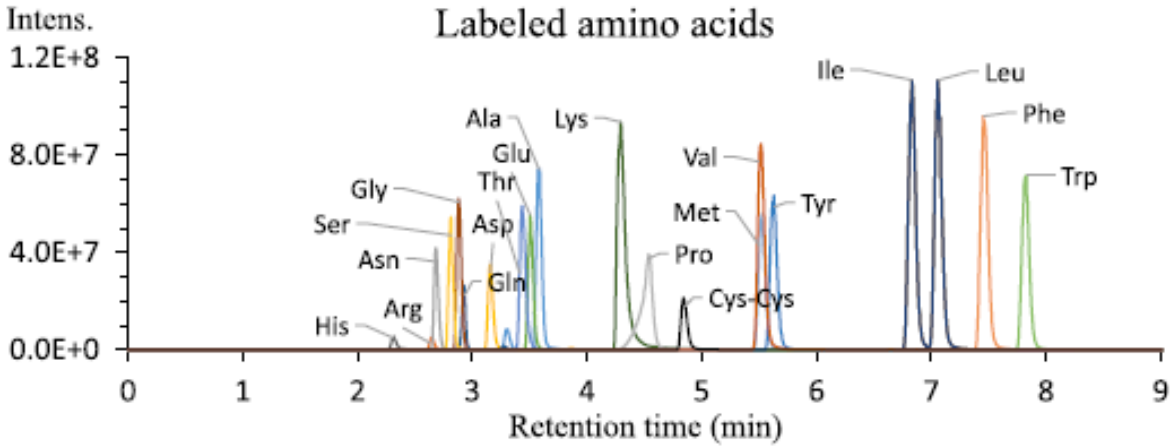


Image:
https://www.thermofisher.com/TFS-Assets/LSG/figures/90110-NHS-TMT10-stc.jpg-650.jpg

Metabolomics

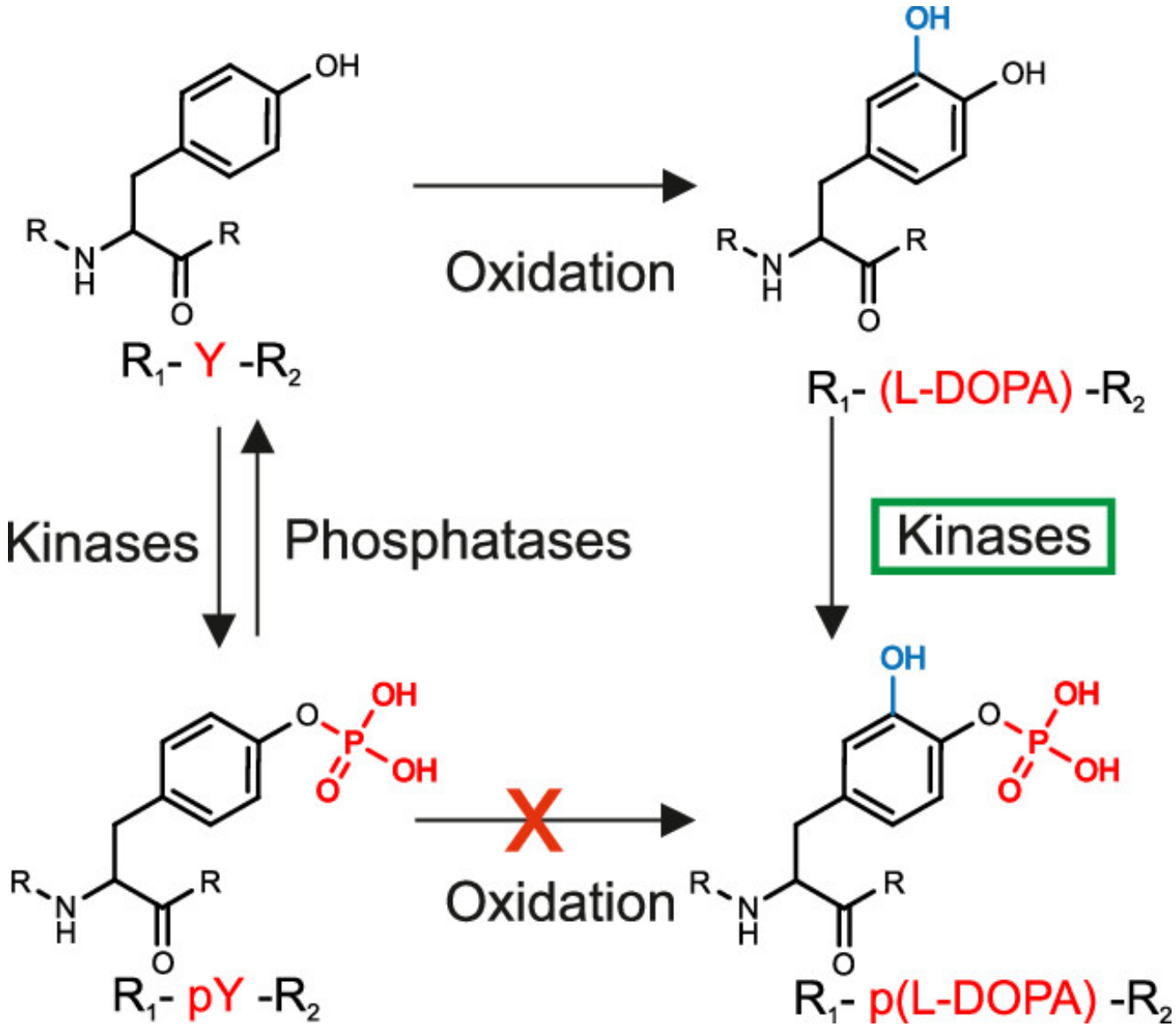




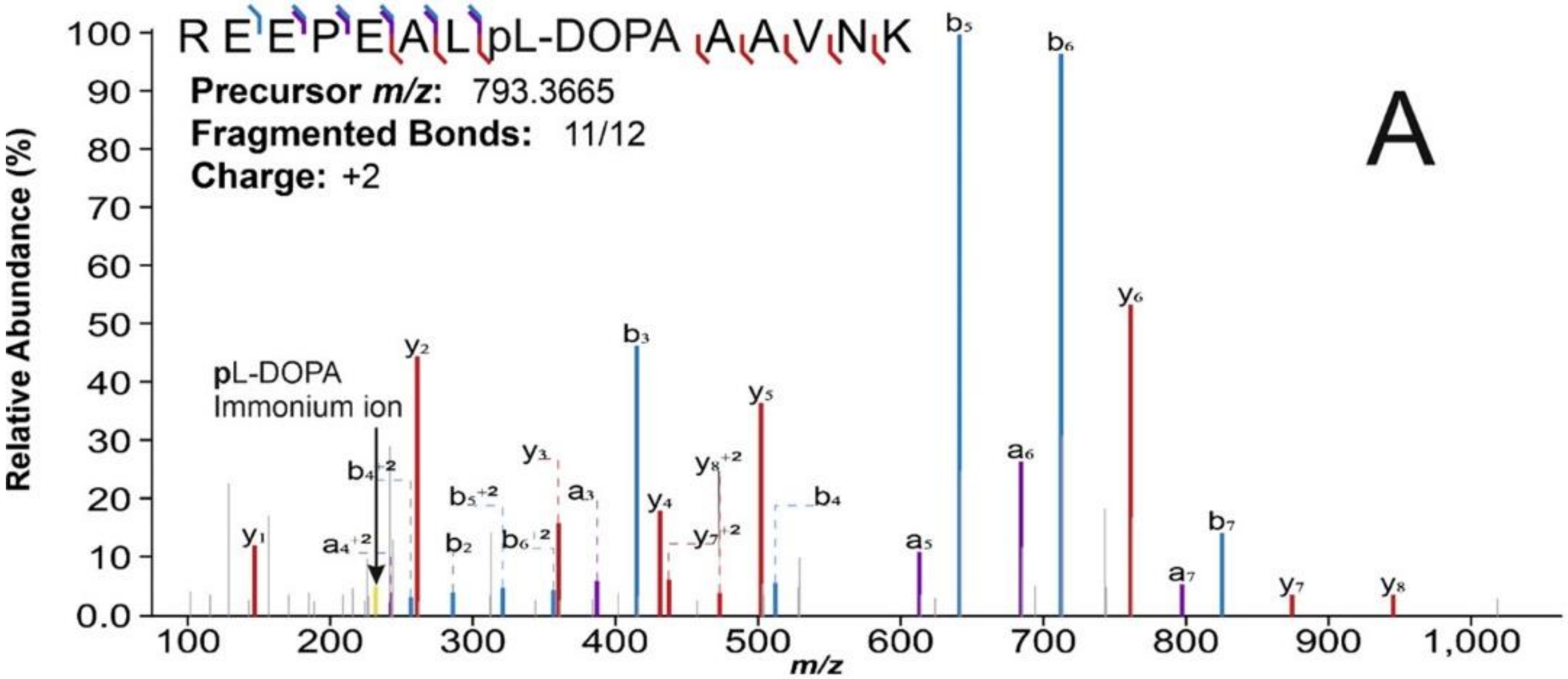


Heininen et al. *J. Chromatogr. A* 1656, 462537, 2021

Proteomics



Heininen et al. *J. Proteome Res.* 22, 1959–1968, 2023



Heininen et al. *J. Proteome Res.* 22, 1959–1968, 2023

Thank you!