

MALDI-IHC guided in-depth spatial proteomics: targeted and untargeted MSI combined.

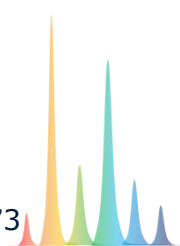
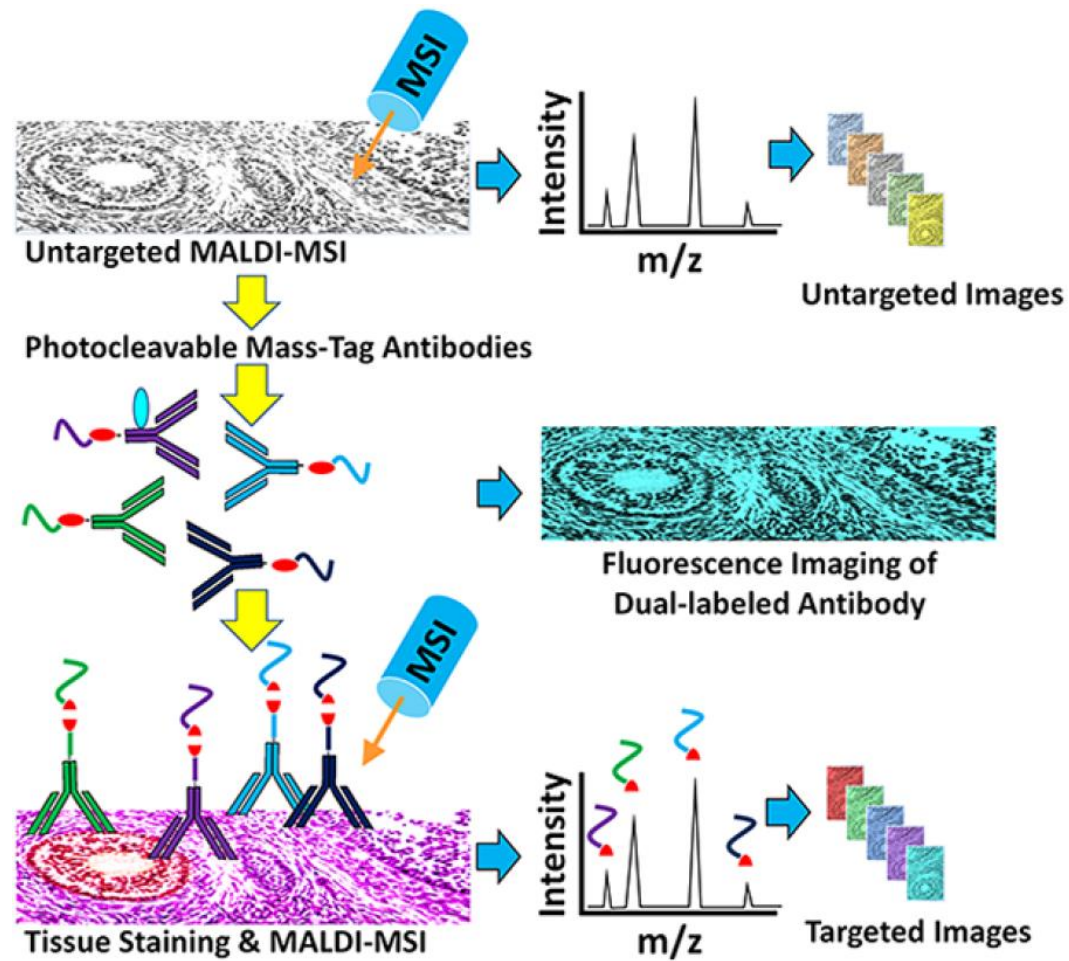


Kasper Kaagaard Krestensen

The Maastricht Multimodal Molecular
Imaging Institute (M4i)
Division of Imaging Mass Spectrometry
Maastricht University, The Netherlands

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MALDI-IHC



Our workflow

UV illumination at 365 nm for 10 min



Sublimation of 50 mg DHB, 160°C for 180 s



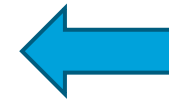
Recrystallization in oven (50°C for 90 sec, using 0.5% EtOH in H₂O)



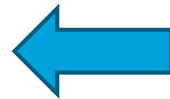
MALDI-TOF acquisitions



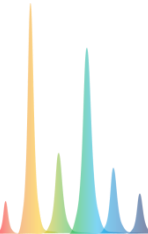
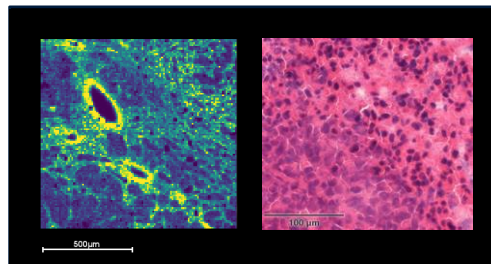
LMD on regions of interest



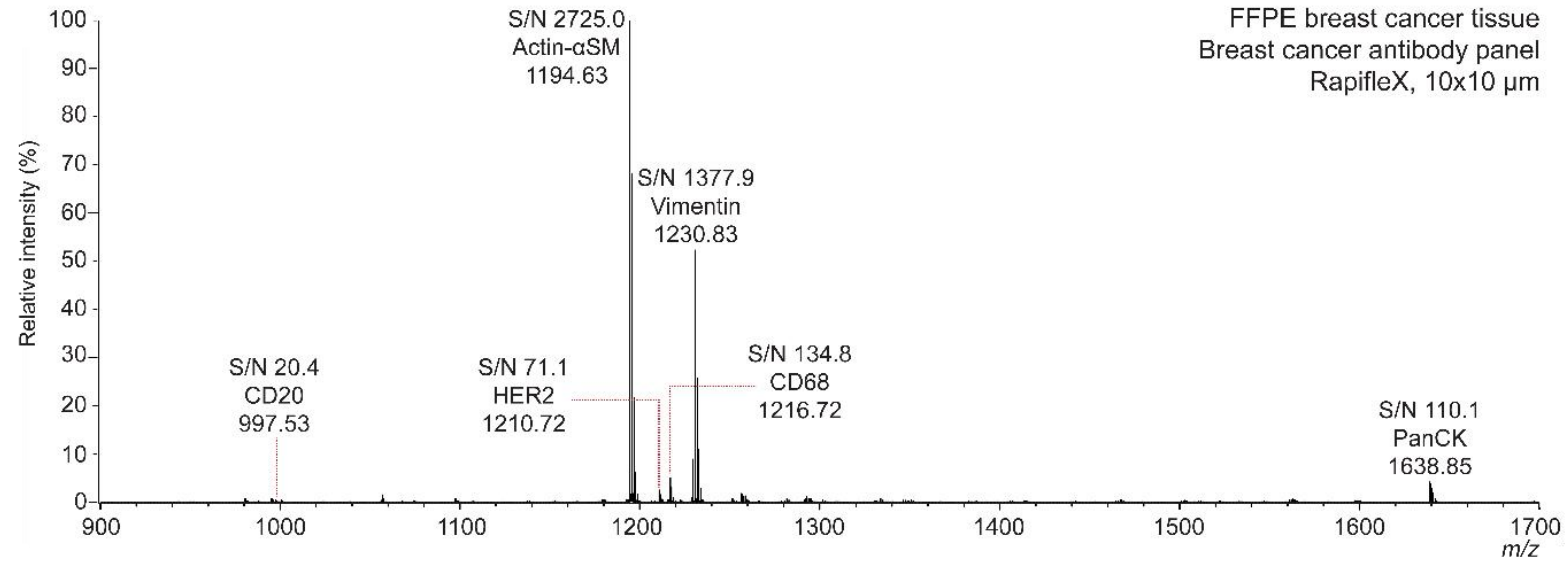
Proteomics on NanoElute



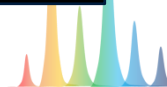
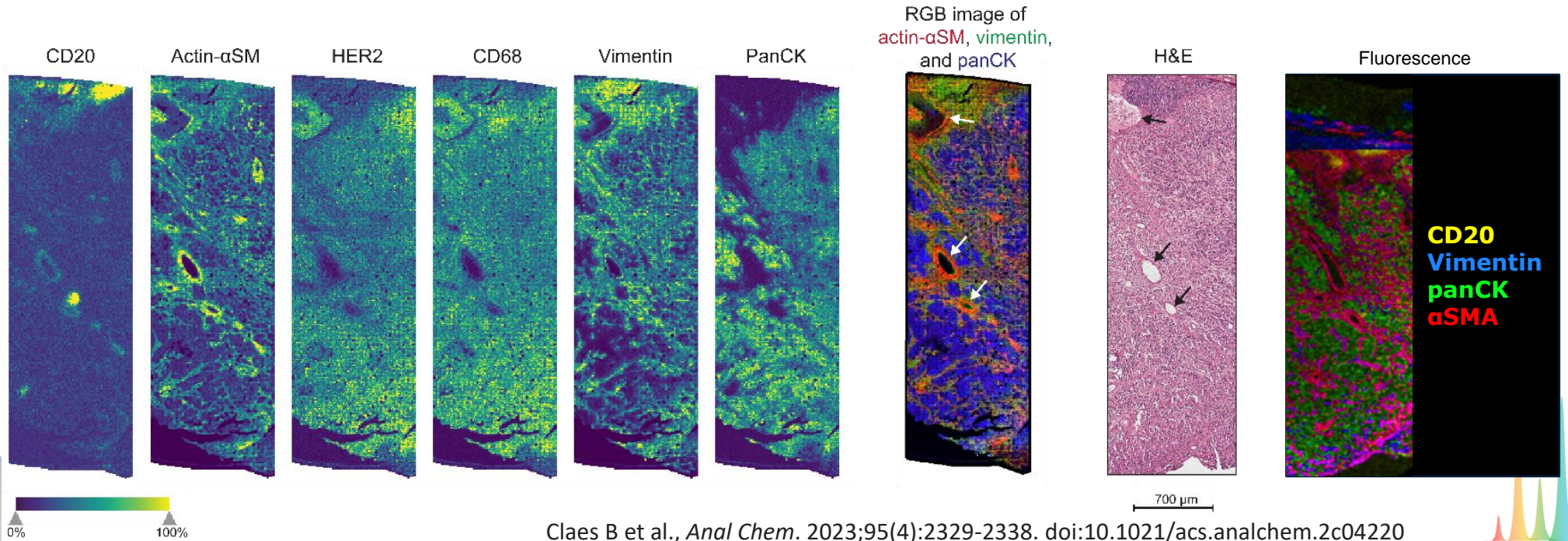
Data analysis and histological staining



Multiplex MALDI-IHC imaging on rapifleX – 10x10 μm



FFPE breast cancer tissue
Breast cancer antibody panel
RapifleX, 10x10 μm



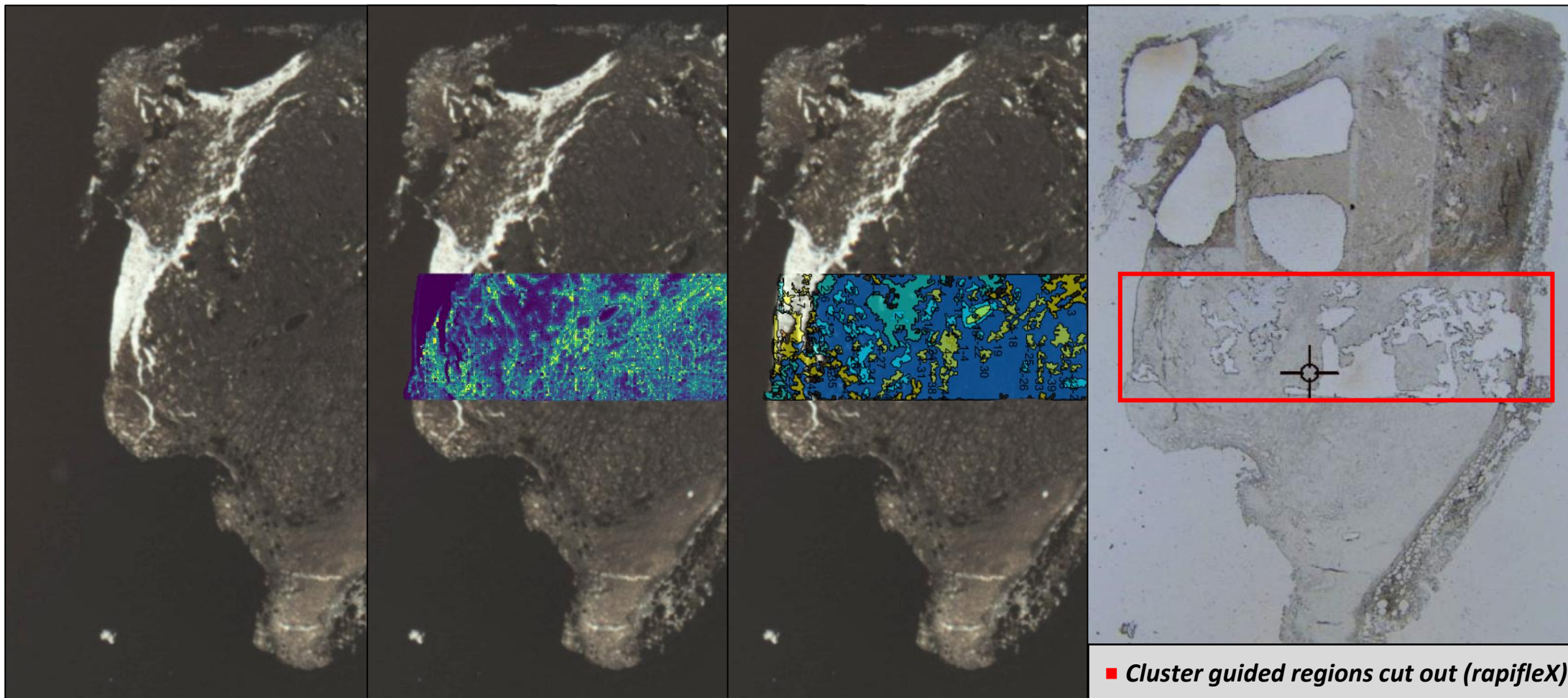
MALDI-IHC guided LMD-proteomics

Optical image scan

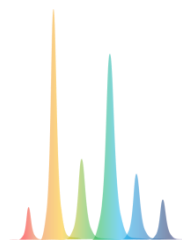
MALDI-IHC

K-means clustering

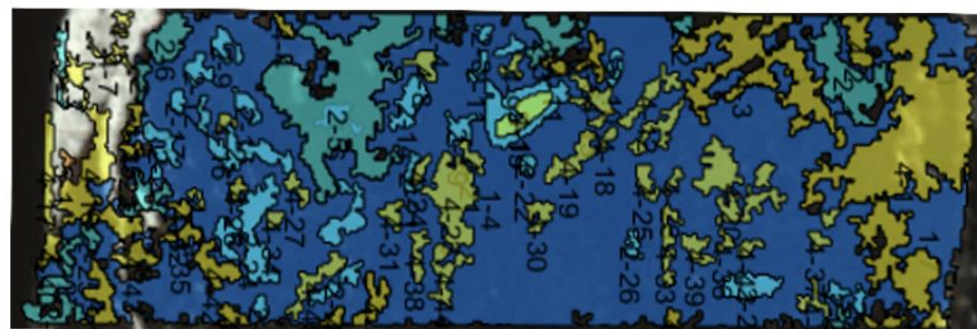
Tissue after LMD cutting



■ Cluster guided regions cut out (rapiflex)

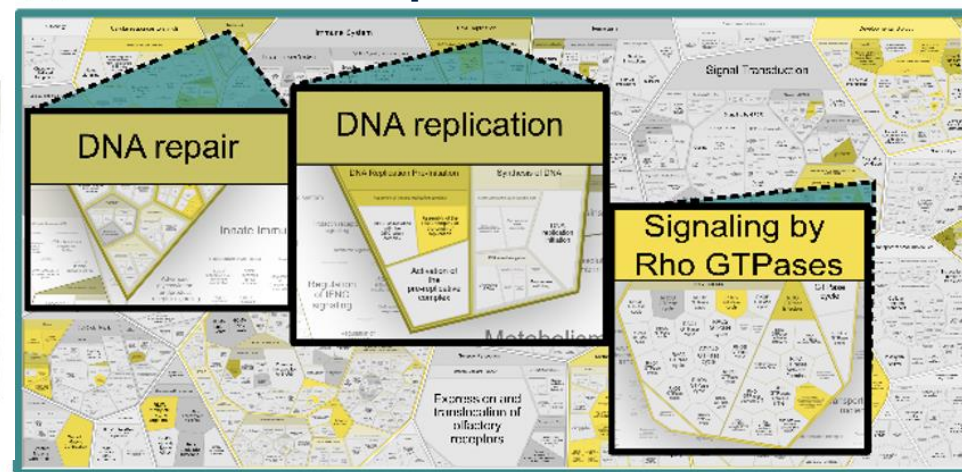


MALDI-IHC guided LMD-proteomics

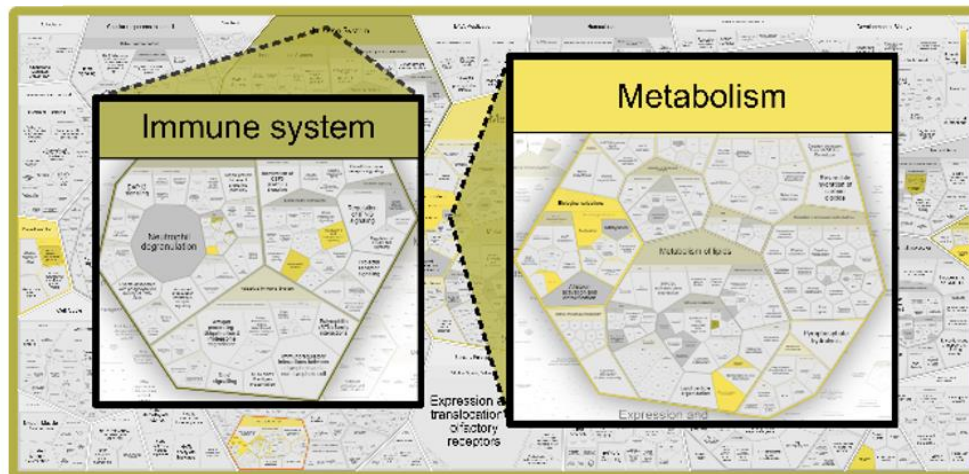


Cluster 1 (B) Cluster 2 (C) Cluster 3 (D)

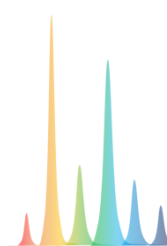
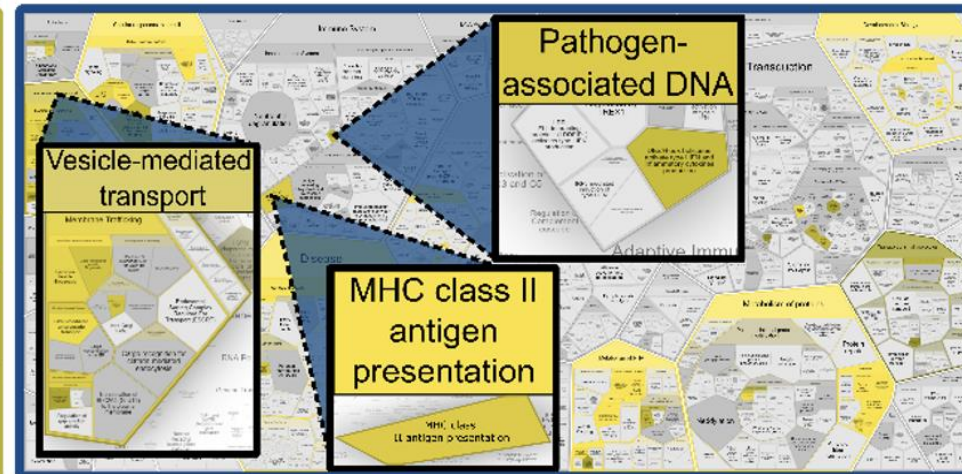
panCK



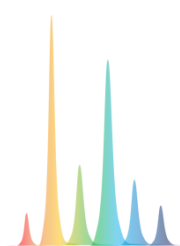
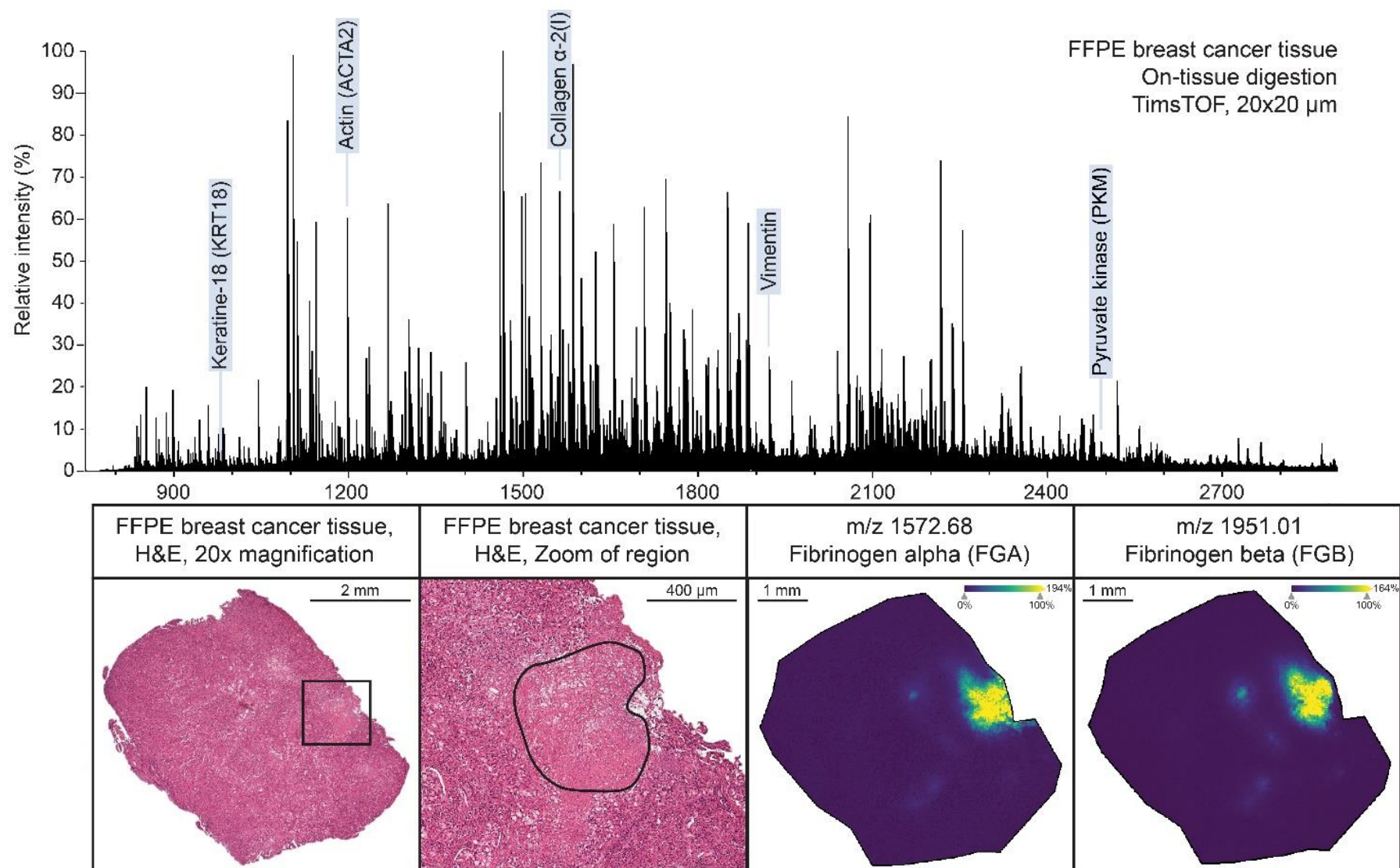
Vimentin & CD20



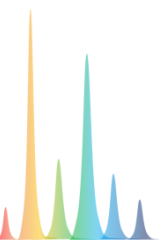
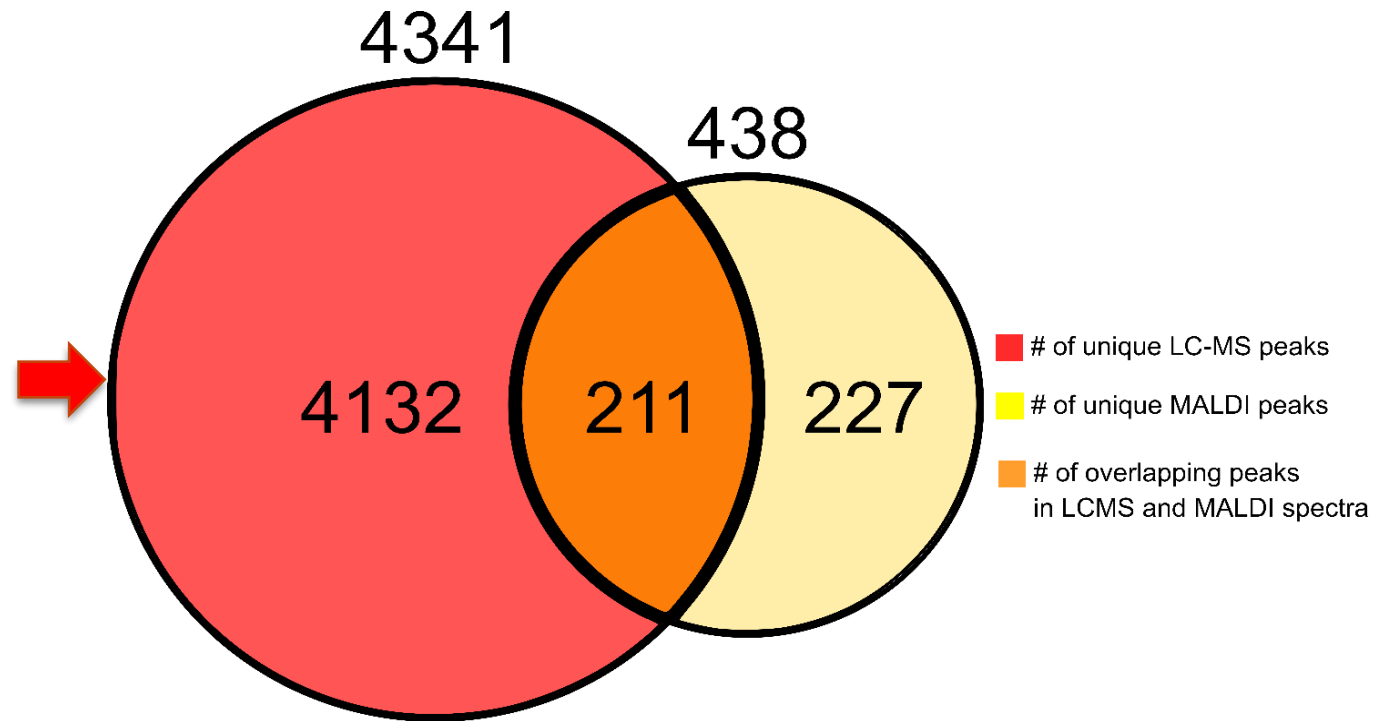
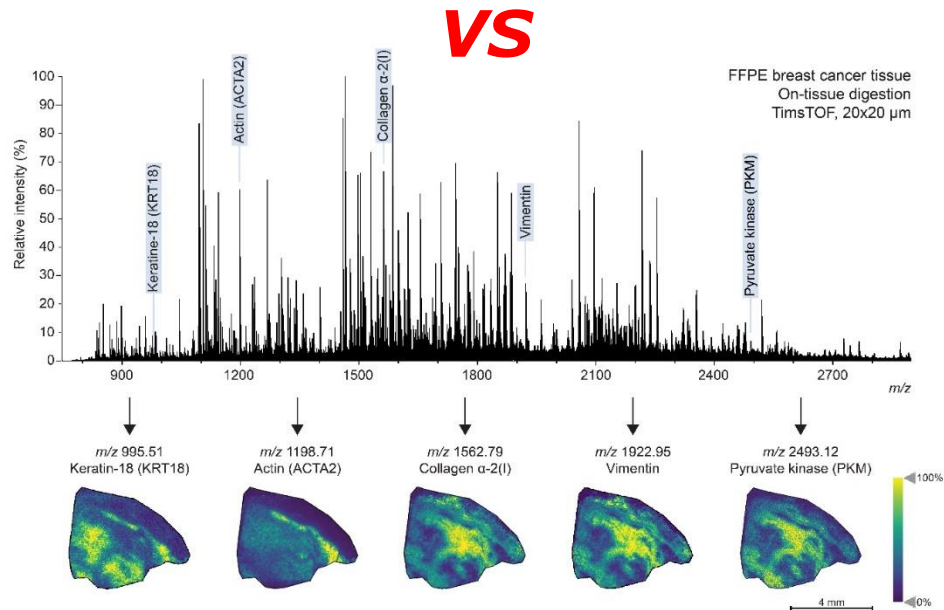
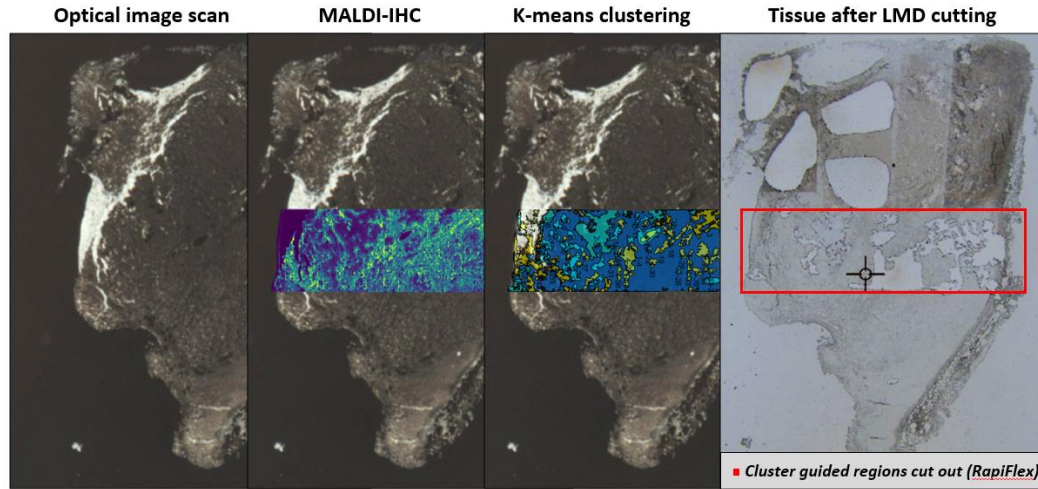
Actin- α SM



On-tissue untargeted bottom-up MALDI imaging



Comparison of bottom-up proteomics



Acknowledgements



Britt Claes

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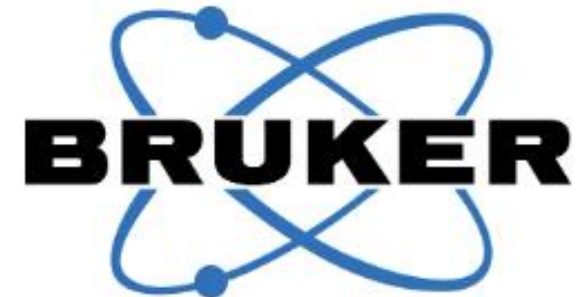


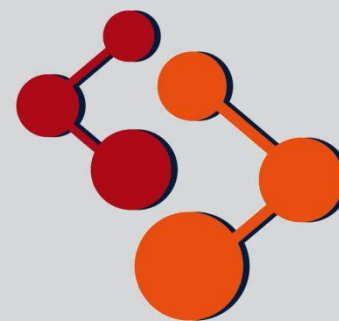
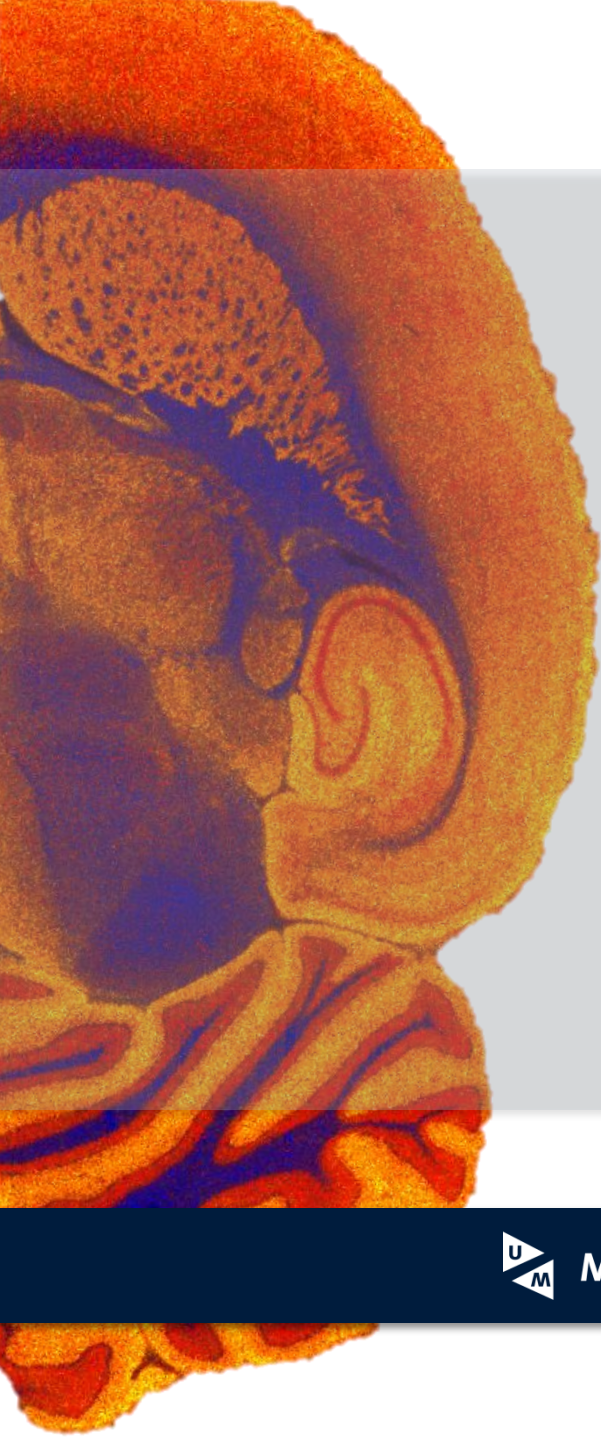
Gargey Yagnik

Mark Lim

John Gillespie

Kenneth Rothschild





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Maastricht University



@M4i

k.krestensen@maastrichtuniversity.nl