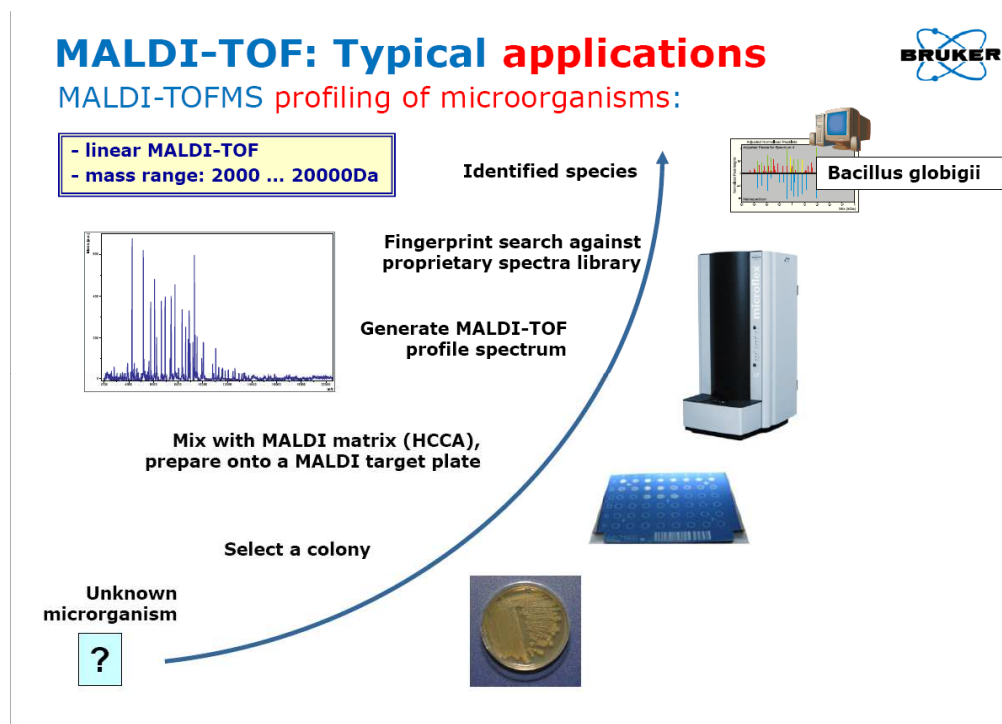


MALDI application

Possible application areas:

https://www.bruker.com/fileadmin/user_upload/8-PDF-Docs/Separations_MassSpectrometry/Literature/Brochures/1827310_autoflex_speed_brochure_03-2014_eBook.pdf

1. Proteomics research
2. Biomarker discovery
3. Analysis of biotherapeutics
4. Bioassay development and metabolite distribution
5. Molecular histology/MALDI Imaging
6. Polymer analysis
7. Glycan and glycoprotein analysis
8. Microorganism identification
9. Intact Protein Sequencing



MALDI-TOF: Typical applications

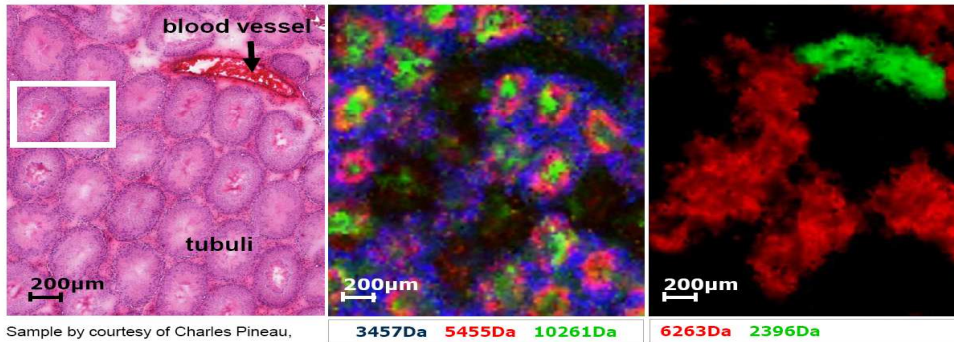


MALDI-Imaging of tissue sections

Example: Imaging of rat testis

Histological image

MALDI images (20µm pixel size)

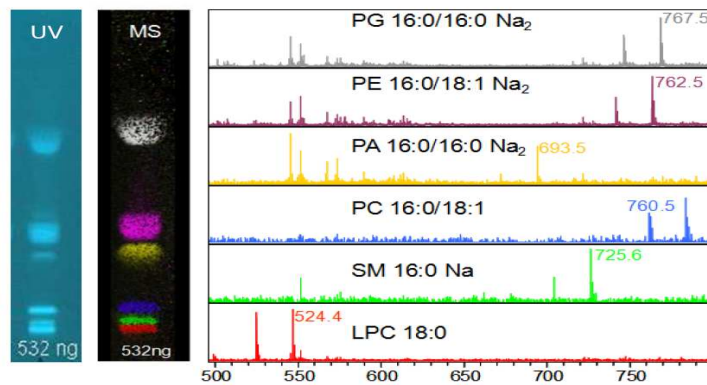


Sample by courtesy of Charles Pineau, Rennes, France

MALDI-TOF: Typical applications



TLC-MALDI coupling (f.e. for lipid analysis)

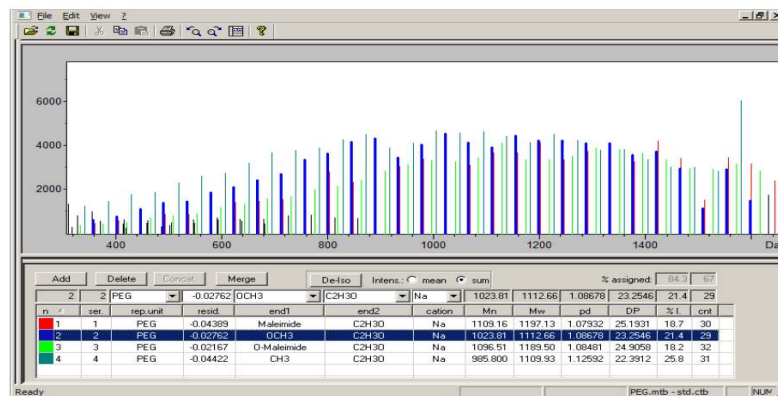


MALDI-TOF/TOF: Typical applications



Single end-group analysis of synthetic polymers

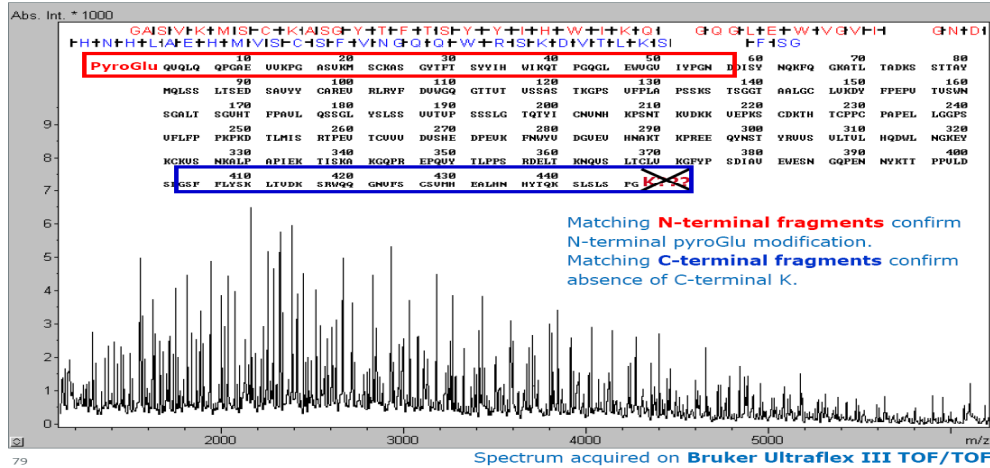
Interpretation of a MALDI-MS/MS spectrum re. end-groups in synthetic polymers:



MALDI-TDS applications: Monoclonal antibodies



IgG heavy chain: Aim of analysis: - N-terminal pyroGlu???
 - C-terminal lysine deleted???

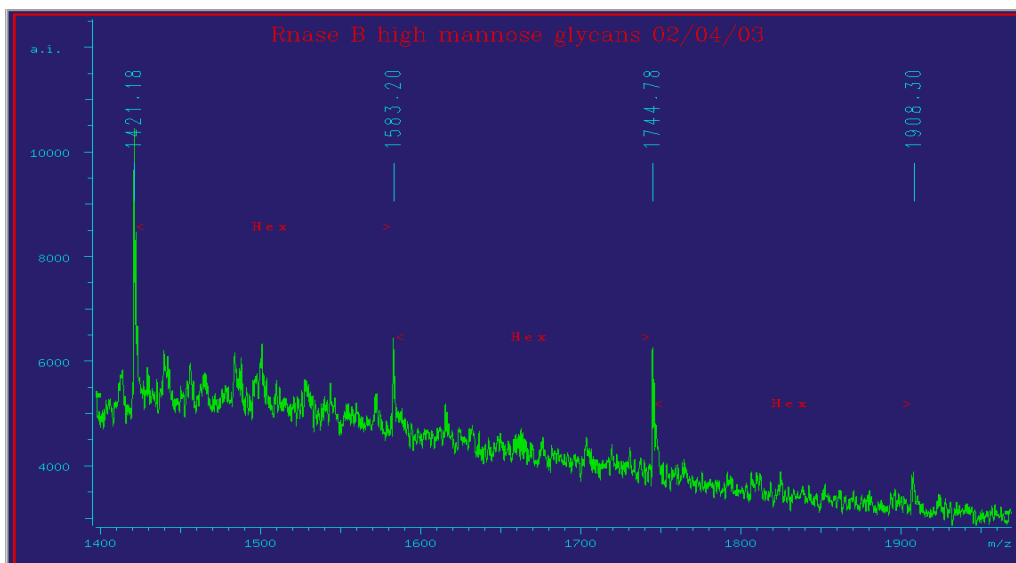


MALDI application (some examples)

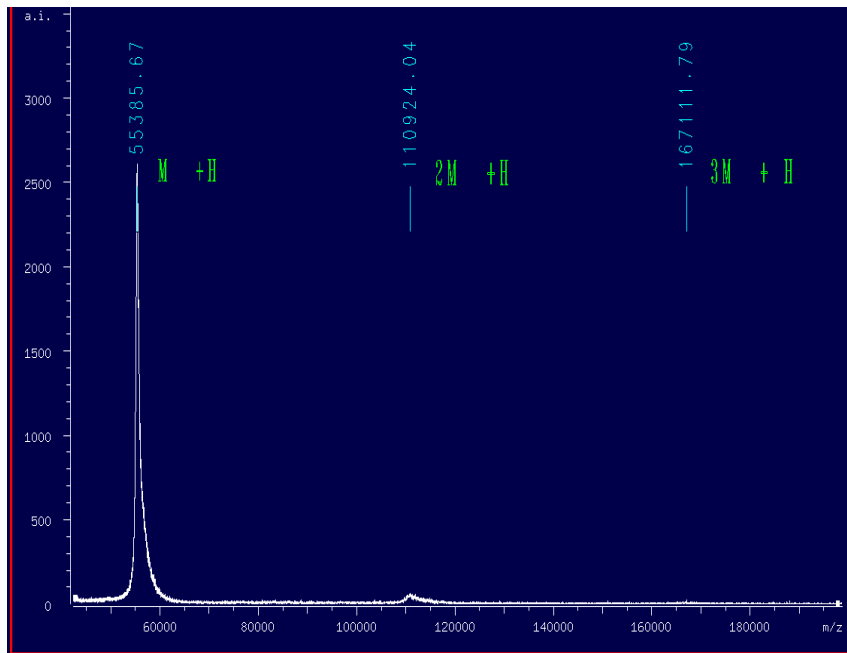
Sample amounts: Mass analysis ⇒ femtomoles to picomoles

The information of a MALDI measurement is expressed in a mass spectrum: a two-dimensional graph of ion intensity vs. mass-to-charge ratio. The position of the peaks reveals the m/z ratio of the corresponding ions.

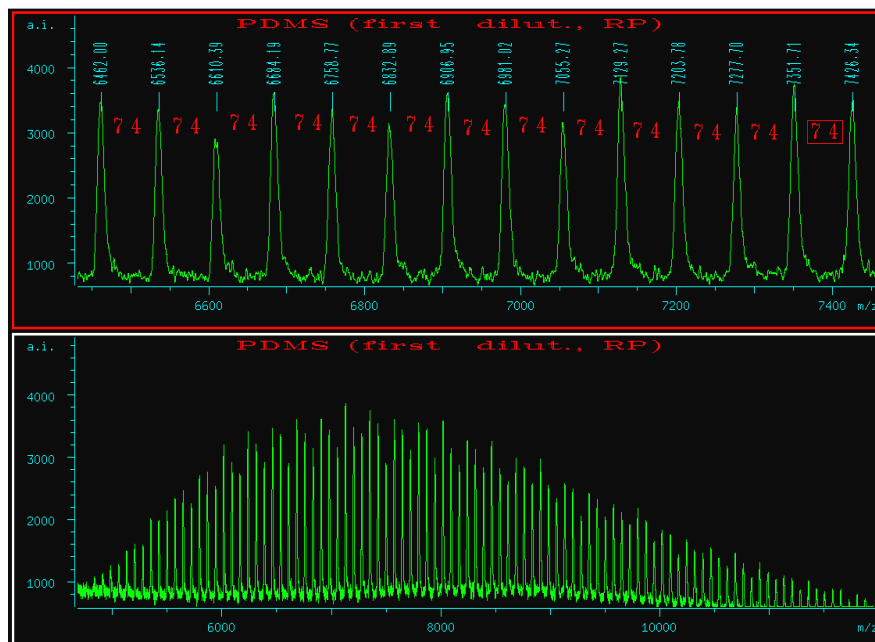
1. Mass spectra of glycan.



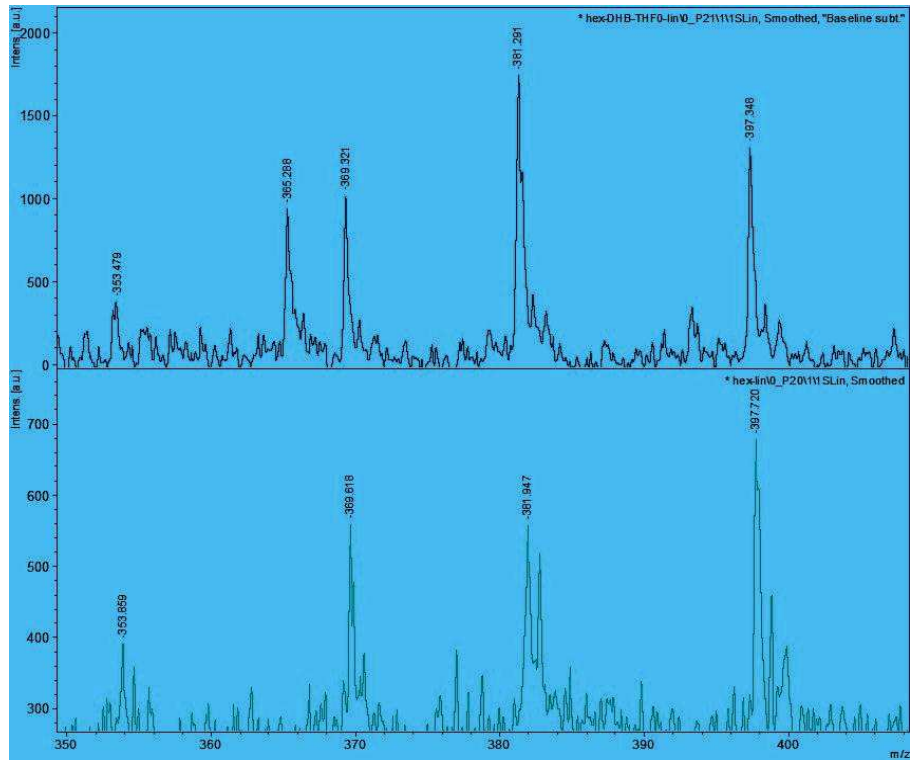
2. Mass spectra of protein.



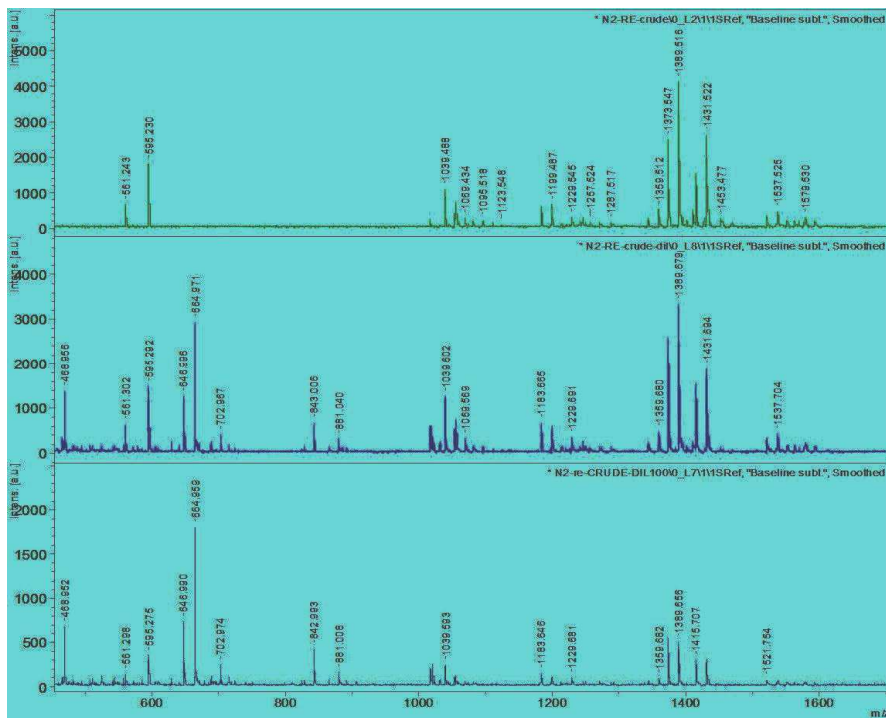
3. Mass spectra of polymer.



4. Mass spectra of small organic molecule.



5. Mass spectra of lipid.



6. Mass spectra of oligonucleotide.

