



СЕВЕРНЫЙ
(АРКТИЧЕСКИЙ)
ФЕДЕРАЛЬНЫЙ
УНИВЕРСИТЕТ

Core facility center «Арктика»

RESEARCH DIVISION

of the Lomonosov Northern (Arctic) Federal University



Aleksandr
Kozhevnikov
pHD, chemistry

CREMLIN PLUS

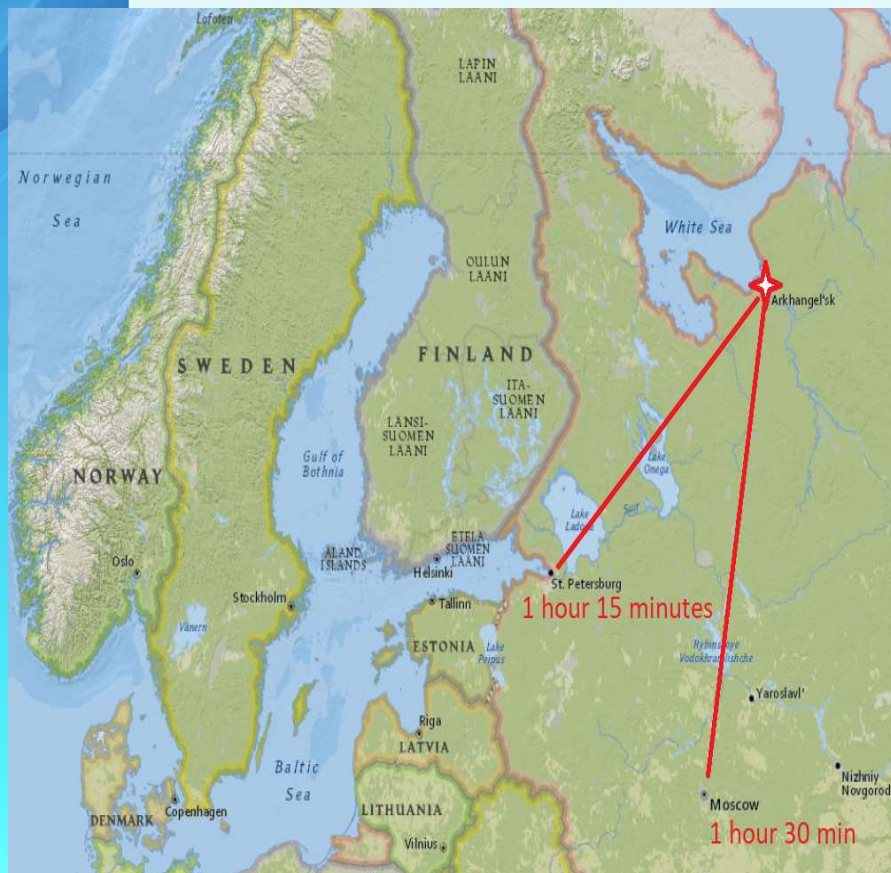
Connecting Russian and European Measures
for Large-scale Research Infrastructures



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Location of the facility (indicating the place on the map of the Russian Federation)

Arkhangelsk region,
Arkhangelsk,
Northern (Arctic) Federal
University



Main goals

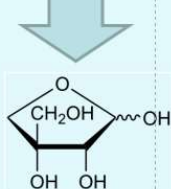
Chemistry of plants



Взморник
морской (лат.
*Zostera
Marina*)



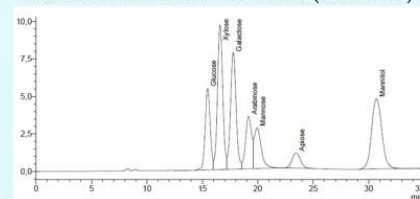
Препарат «Зостерин-УЛЬТРА»



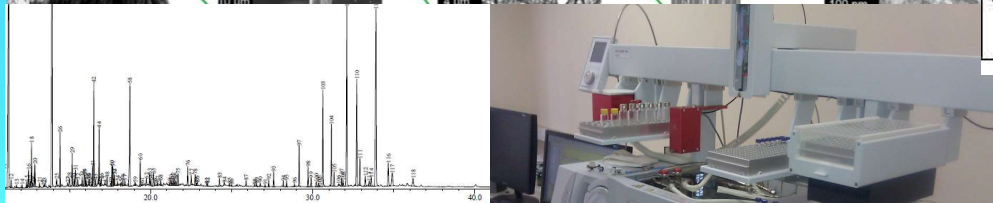
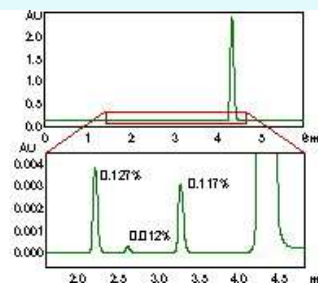
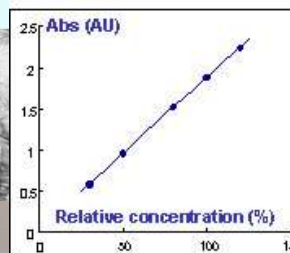
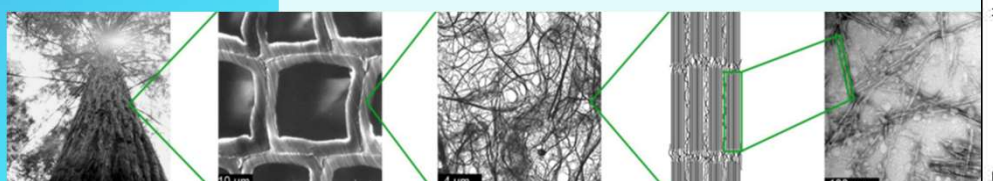
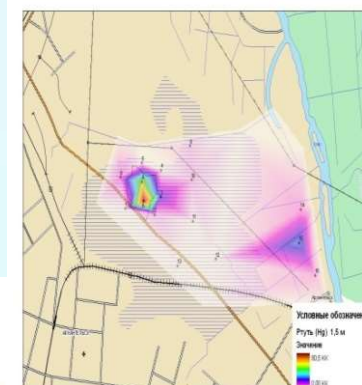
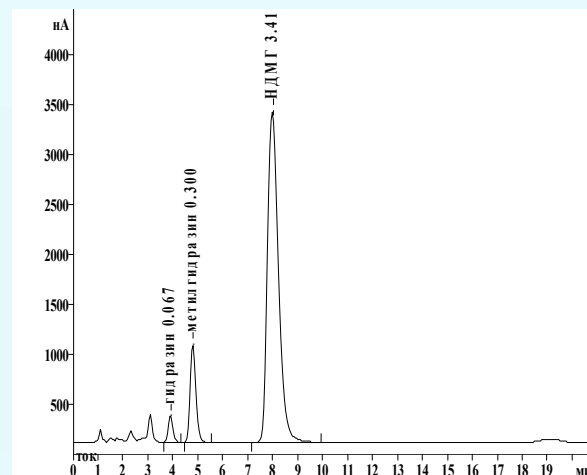
D-апиоза



ВЭЖХ система LC-20 Prominence (Nexera XR)



Environmental chemistry



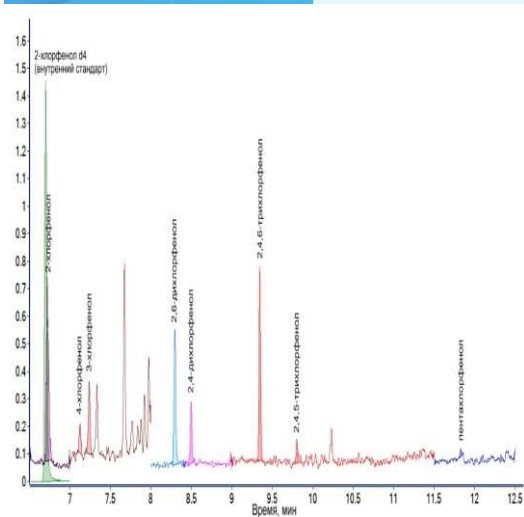
Research directions

- Chemistry of plants.

Biologically active substances in plants: isolation, metabolism, analytics and applications.

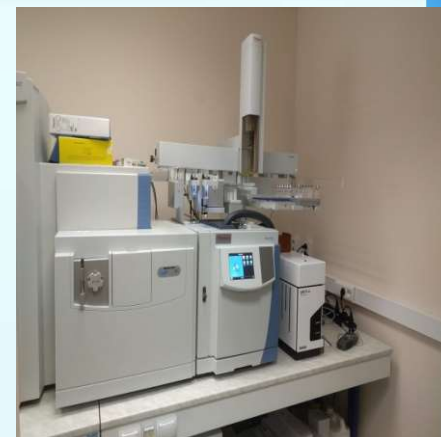
- Analytical chemistry and environmental pollution.

Xenobiotics and contaminants in arctic ecosystems: identification, quantification, pollution levels.

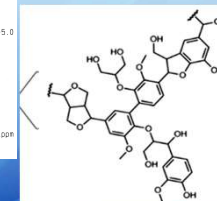
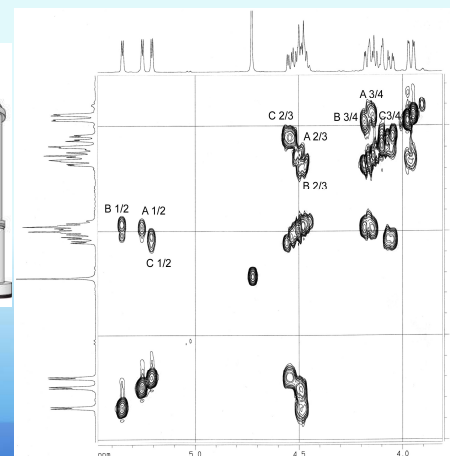


The CFC “Arktika” has a unique complex of research equipment, which allows to solve the most difficult challenges in the field of chemical analysis:

- TOF chromato-mass spectrometer **Pegasus GC-HRT** (Leco, USA)
- Mass spectrometry complex based on tribrid ultra-high-resolution mass spectrometer **Orbitrap ID-X** (Thermo scientific, USA)
- NMR Spectrometer **Avance III 600** (Bruker, Germany)
- TOF hybrid MALDI mass spectrometer **Axima Resonance** (Shimadzu, Japan)
- **ACQUITY UPC2** Supercritical Fluid Chromatography System - tandem mass spectrometry **3200 QTRAP** (Dionex, USA)
- Chromato-mass spectrometry complex based on ultrafast liquid chromatography systems **LC-30 Nexera**, mass spectrometry of ion mobility increment **Selexion** and tandem high-resolution mass spectrometer **TripleTOF 5600+** (Japan, USA).



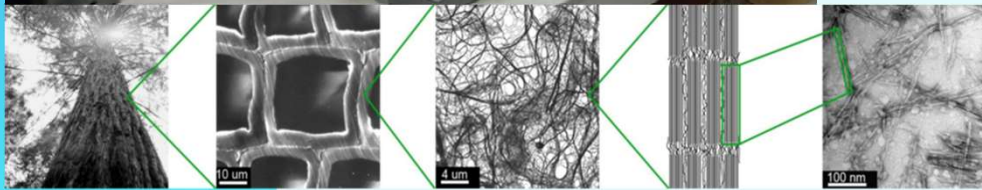
600 MHz NMR spectrometer Bruker Avance III HD



**Thermodesorption
gas chromatography -
mass-spectrometry
Shimadzu QP 2010
PLUS**

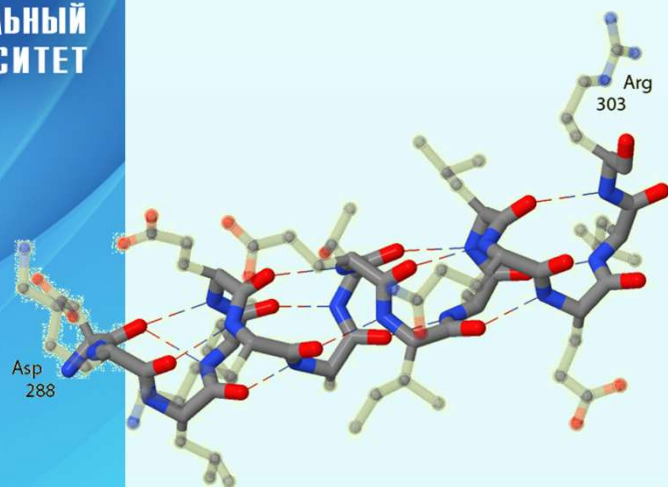


CEM Carl Zeiss Sigma VP

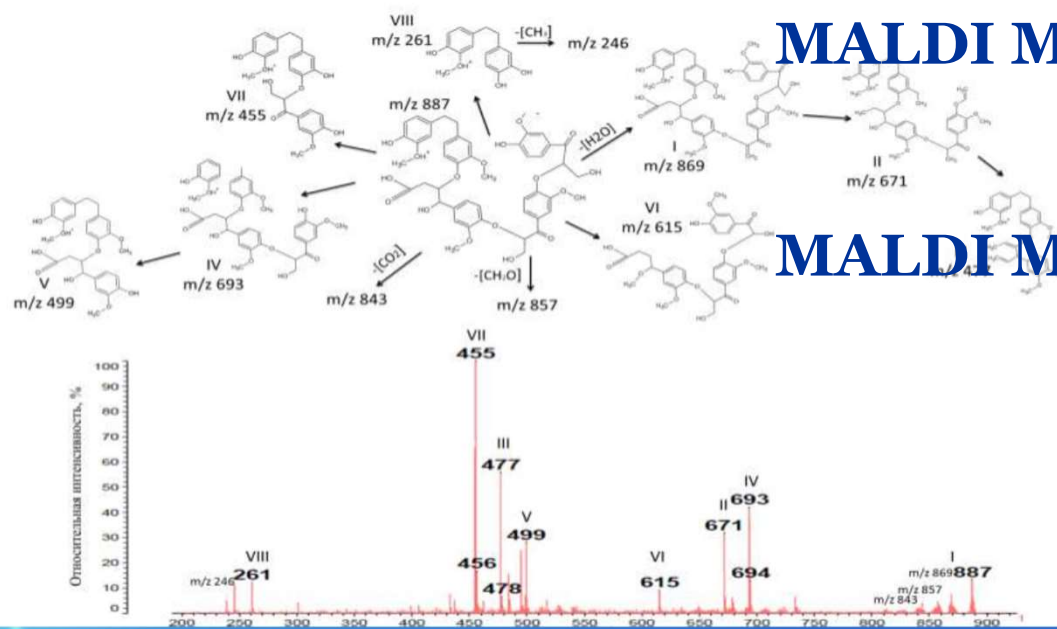


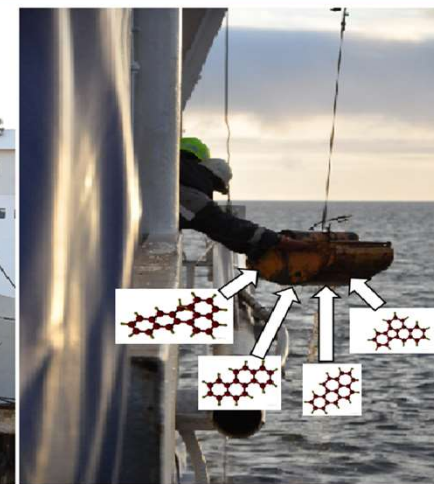
**ProteomeLab Analytical
ultracentrifuge**



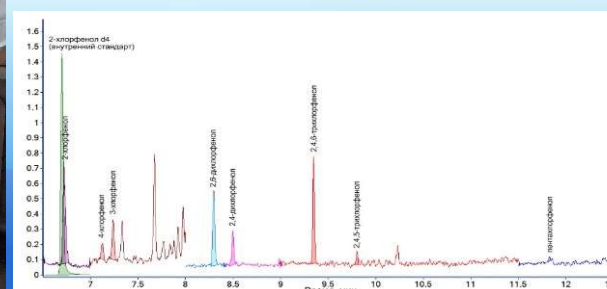
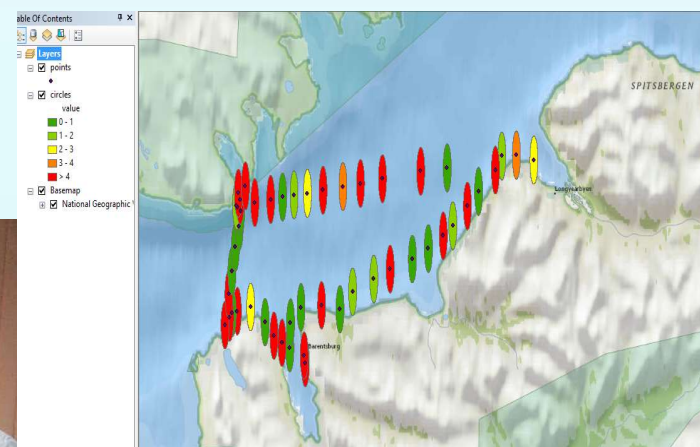
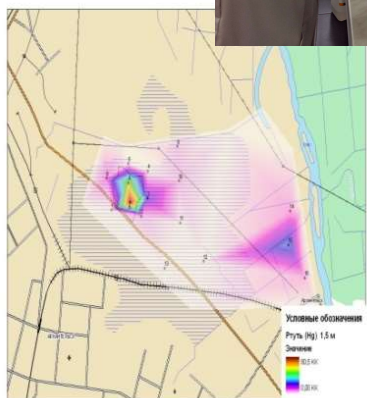


MALDI Mass-spectrometer AXIMA Performance and MALDI Mass-spectrometer AXIMA Resonance



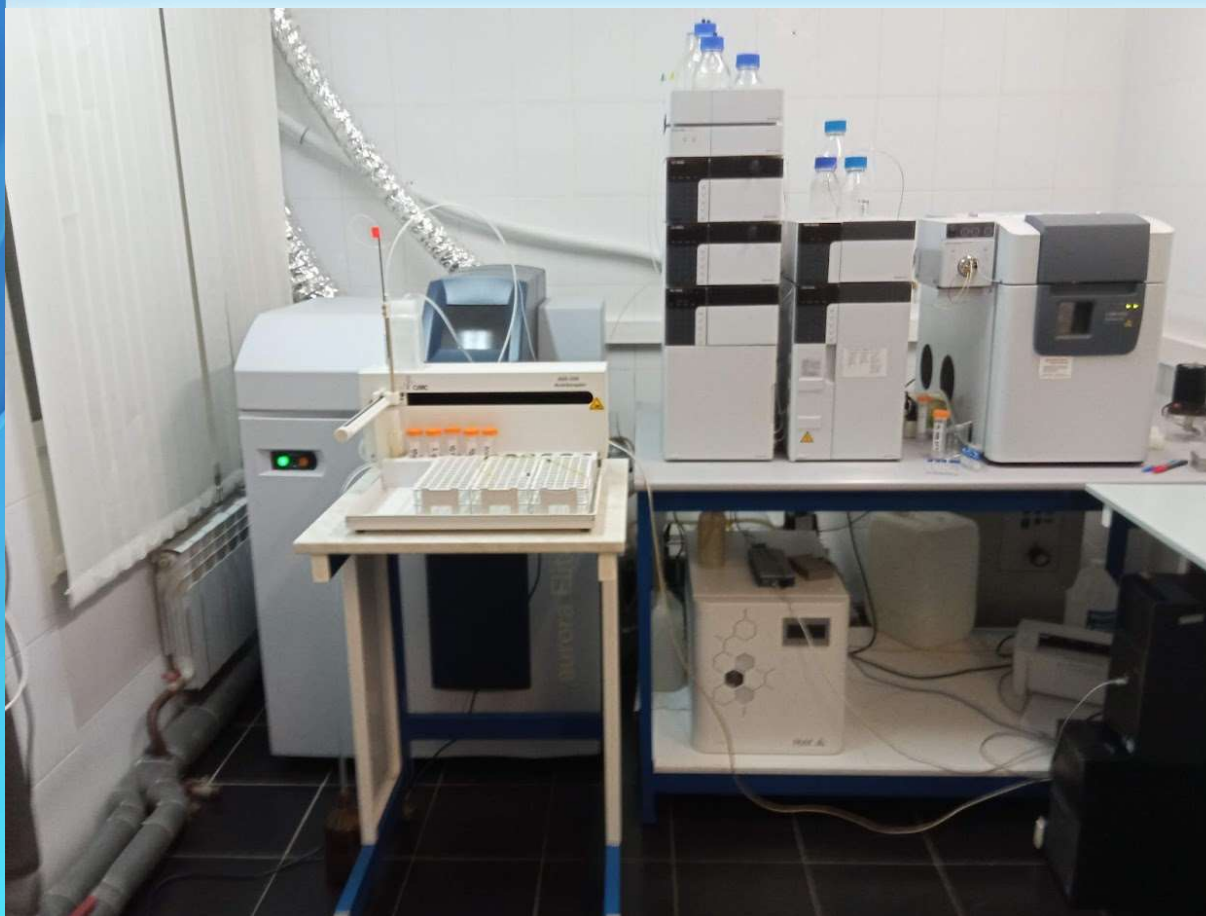


Environmental pollution

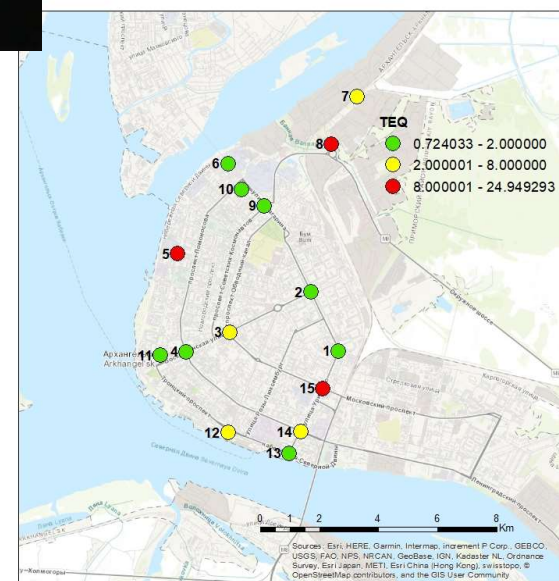
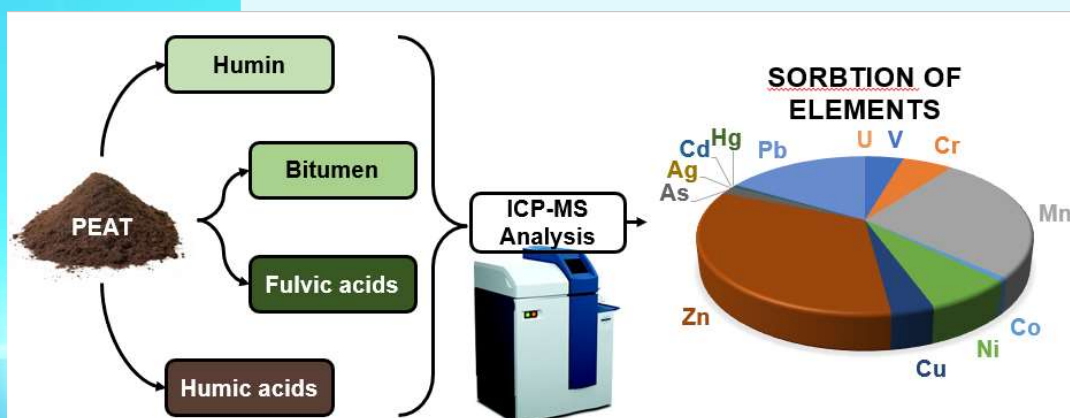




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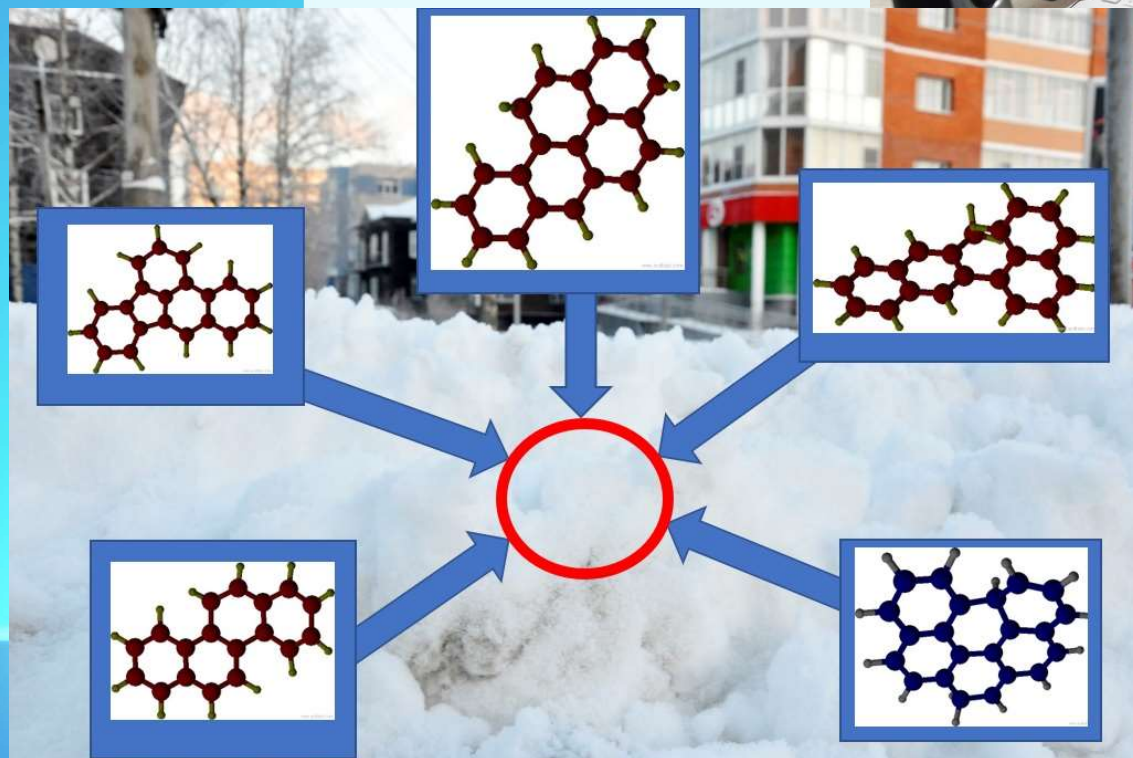
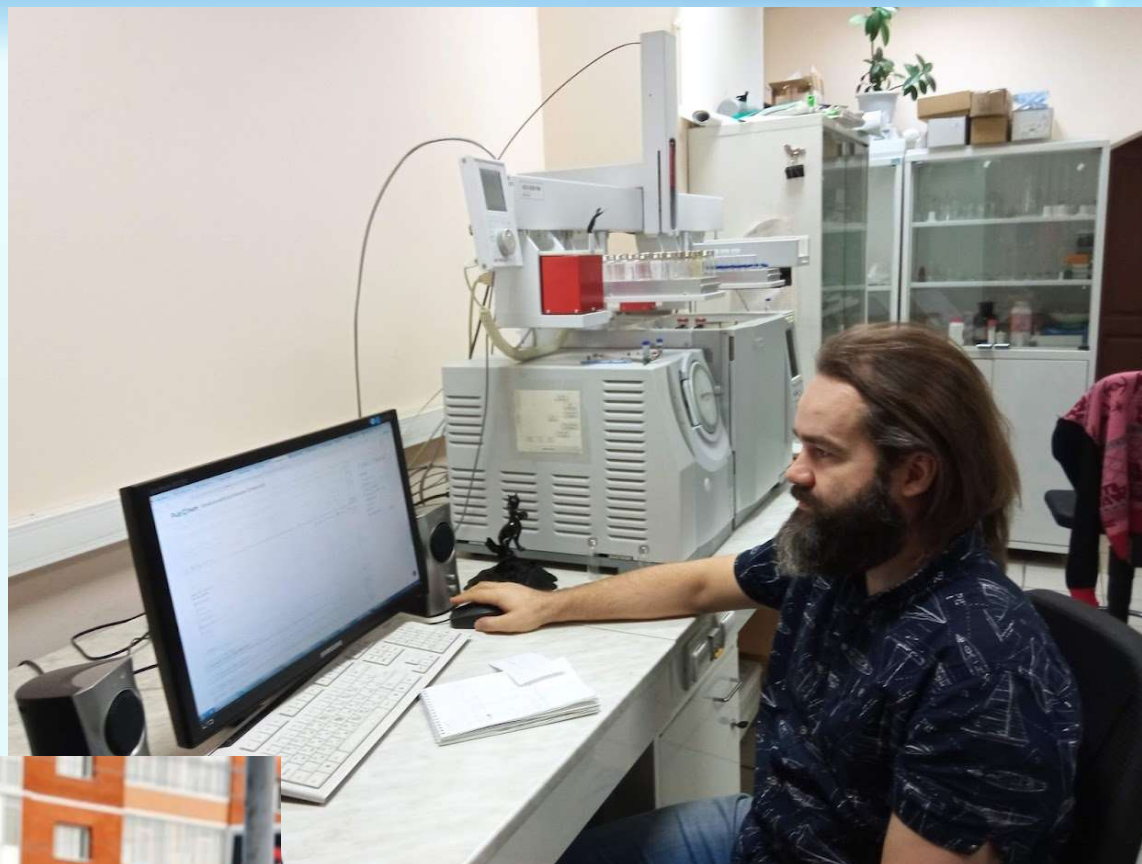
ICP-MS Aurora Elite
from Brucker





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Gas chromatography - mass-spectrometry Shimadzu QP 2010 PLUS





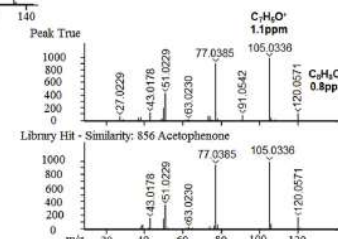
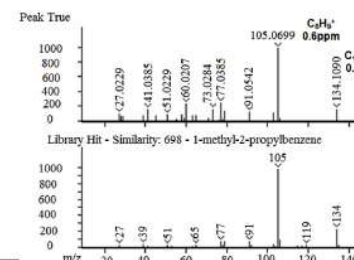
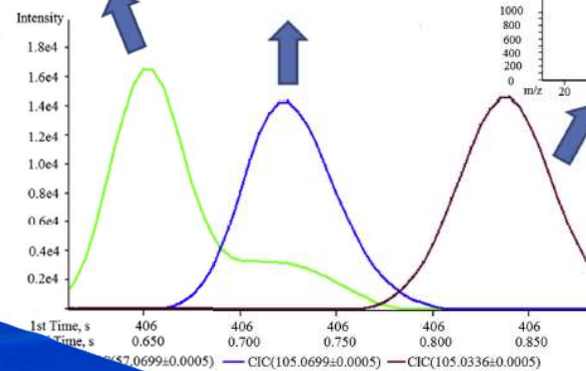
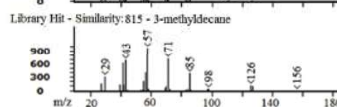
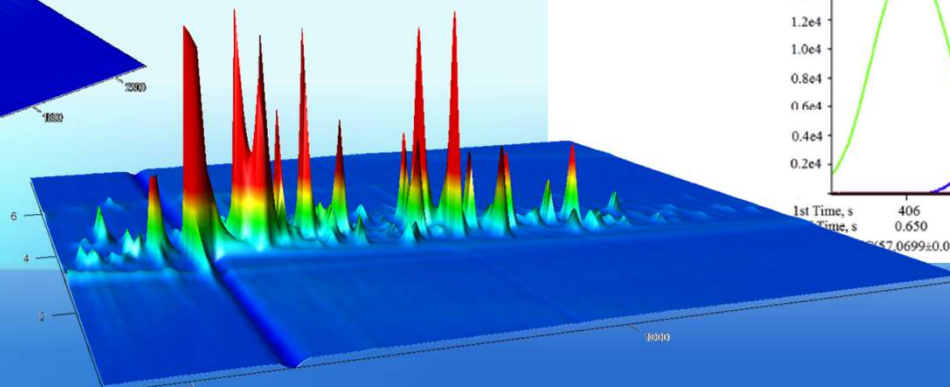
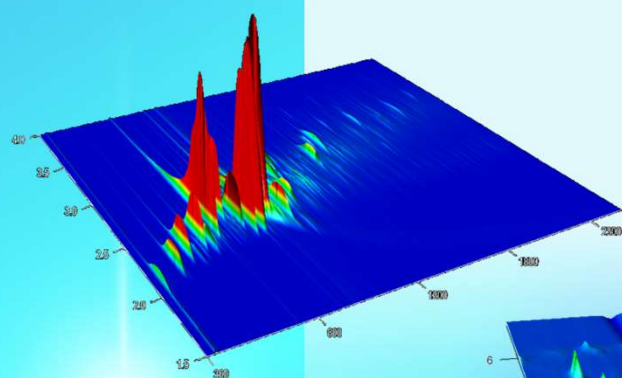
Orbitrap IQ-X Tribrid Mass Spectrometer

**hybrid quadrupole -
time-of-flight mass
spectrometer (Q-TOF)**





Time of light chromatate mass spectrometer Pegasus GC-HRT+ 4D (Leco, США)





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Q Exactive GC Hybrid Quadrupole-Orbitrap Mass Spectrometer



Exactive GC Orbitrap
GC-MS System

Thank you

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https://narfu.ru/en/research/cfc_arktika/

Main / Research / Core Facility Center "Arktika"

Core Facility Center "Arktika"



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Publications

Modern analytical methods in
Ecology

The main goals and objectives of Core facility center "Arktika"

The formation of the innovative environment, the development of research
activities

— Laboratories

Improving the training quality of specialists at all levels