

# Our Organic Analysis Capabilities



## MS systems

- ABSciex 4000 Q-trap LC-MSMS
- ABSciex 6500+ LC-MSMS
- Agilent 6530 QTOF LC-MSMS
- Agilent 5975C Q GC-MS
- Agilent 6490 QQQ LC-MSMS
- Agilent 7010 QQQ GC-MSMS
- Bruker Ultraflex II MALDI TOF/TOF
- Thermo Vantage LC-MSMS
- Thermo Trace DSQ Q GC-MS
- Thermo Fisher Scientific Exactive (plus) – orbitrap LC-MSMS
- Waters Synapt G2-Si QTOF LC-MSMS
- Waters Acquity Qda LC-MS
- Waters Quattro Premier QQQ LC-MSMS
- Waters LCT TOF
- Waters Xevo G2-S QTOF LC-MSMS
- Water Xevo TQ-XS QQQ LC-MSMS

## Sample prep / Separation

- Assorted Nano LC, HPLC, uPLC and multidimensional GC chromatography equipment
- ESI Laser 266 nm (2018) for bio-imaging and Laser 213 nm (routine imaging)

## Others

- Bruker 600 MHz NMR
- Jasco HPLC systems with Fluorescence FP-1520 & UV-1575 detectors
- Mettler Toledo 823e differential Scanning Calorimeter
- Mettler toledo DL50 autotitrator (alcohol measurement)
- Metrohm oven coulometric Karl Fischer titrator
- Semi-preparative LC and Fraction collector
- TA Q5000 TGA
- Thermo Trace GC 2000 series

# Our Inorganic Analysis Capabilities



## ICP-MS

- Agilent 8900 ICP-MS with dynamic reaction cell and fast detection capability
- Agilent 7700 ICP-MS system with collision reaction cell
- Agilent 8800 ICP-QQQ-MS with dynamic reaction cell – 2 systems
- Thermo Scientific sector field double focusing ICP-MS (Element 2)
- ToFwerk AG ICP-TOF 2R

## ICP-OES

- Agilent ICP-OES 5110 SVDV
- Optima 7000DV

## Other

- Malvern particle tracking analysis system (NS500 NTA) for nanoparticle characterisation
- Postnova Analytics multi-angle light scattering detector to be coupled with FFF and other fractionation techniques for nanoparticle characterisation

## Isotope Ratio

- Thermo multi-collector ICP-MS (Neptune)
- Thermo gas source IRMS (Delta V) with capability for hydrogen, oxygen, carbon and nitrogen isotope ratio measurements and when combined with GC and HPLC, it delivers compound-specific isotope ratio measurements

## Hyphenated MS system (speciation)

- Agilent high capacity 60300 HPLC- ion trap MS with ESI and APCI sources, which is used in combination with HPLC and ICP-MS for speciation analysis

## Separation (speciation work)

- Assorted Nano LC, HPLC, uPLC and multidimensional GC chromatography equipment
- ESI Laser 266 nm (2018) for bio-imaging and Laser 213 nm (routine imaging)
- Postnova Analytics FFF systems (2)

# Our Molecular Biology Capabilities



## Genotyping

- ABI 7900HT Fast Real Time PCR system
- ABI Geneamp PCR system 9700 system (x2)
- Agilent 2100 Bioanalyser
- Bio-Rad QX200 droplet PCR system
- Bio-Rad CFX196 Real-time PCR system (x2)
- Fluidigm BioMark microfluidic digital or dynamic PCR platform
- KASP™ - proprietary genotyping technology (Kompetitive Allele Specific PCR)
- Nanodrop ND-2000 Spectrophotometer
- Stilla Naica Multicolour digital PCR platform
- Thermo-Fisher Quant Studio 7

## Sequencing

- ABI/Hitachi 3130 XL sequencer
- Becton Dickinson Rhapsody single cell RNA analysis system
- Illumina MiSeq NGS sequencing platform

## Immunoassay platform

- MSD-Meso Quickplex SQ120

# Our Cell Biology Capabilities



## Cell analysis and imaging

- Acea xCelligence RTCA for label-free cell impedance analysis
- Becton Dickinson FACS Melody Cell sorter (2 laser systems)
- Becton Dickinson BD LSR Fortessa Analyser
- Becton Dickinson, FACSCanto II, 4-2-2 config, 3 lasers
- Beckman Coulter Vi-Cell XR cell counter
- NanoSight – Nano particle tracking system
- Nikon Eclipse TE2000-S with confocal attachment with Live Cell Imaging platform
- Tecan Infinite M200 plate reader
- Vi-Cell XR – Cell Viability Analyser
- Zeiss PALM Microbeam laser dissection capture

## Histology

- Bright 5030 microtome (capable of taking 1- 30 micron sections)
- Leica CM1850 Cryostat (capable of taking 1- 60 micron thin sections)
- Nikon Eclipse TE2000 inverted laser scanning confocal microscope for 3D imaging of fluorescence (430 nm, 488nm and 546 nm excitation wavelength)
- PALM CombiSystem 4 Laser capture microscope (Zeiss) capable of taking colour and fluorescent (430 nm, 488nm and 546 nm excitation wavelength) regions of interest with 10x, 20x, 40x, 63x
- Inverted bright field microscopes, oven, floatation bath and hot plates