

Facility Details

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Low Resolution Gas Chromatography Mass Spectrometry (GCMS) and Low Resolution Liquid Chromatography Mass Spectrometry (LCMS)

Location: GCIS Building in Room E449

- Agilent 6130 LCMS: installed with VWD detector and ESI ion source; majorly for molecular weight confirmation of synthetic compounds of organic and inorganic molecules and/or separation of reaction mixtures of organic molecules

Location: Searle Building in Room 340A

- Agilent 5977A GCMS: installed with EI/CI ion source; majorly for the separation of reaction mixtures of organic compounds with lower boiling points
- Agilent 6130 LCMS: installed with DAD detector and ESI/APCI multimode ion source; majorly for molecular weight confirmation of synthetic compounds of organic and inorganic molecules and/or separation of reaction mixtures of organic molecules

High Resolution Accurate Mass Spectrometry with Electrospray Ionization (HRA-ESI) or Electron Ionization (HRA-EI)

Location: Searle Building in Room 340A

- Agilent 6230B ToF: installed with ESI/APCI ion source; excellent for accurate mass measurements of synthetic compounds of both organic and inorganic molecules to meet publication requirements
- Agilent 7200B Q-ToF GC: installed with EI ion source and MS/MS technique; meet publication requirement of accurate mass measurement for low boiling point organic molecules; excellent for targets, un-targets and unknowns; ideal for metabolomics, nature products, contaminants (pesticides, etc.) screening, etc

Location: GCIS Building in Room E240

- Agilent 6224 ToF: installed with ESI/APCI ion source; excellent for accurate mass measurements of synthetic compounds of both organic and inorganic molecules to meet publication requirements

Target and Discovery LCMS for Biological Related Samples

Location: GCIS Building in Room E240

- Agilent 6540 Q-ToF LCMS: installed with AJS-ESI ion source, MS/MS technique, DAD detector and internal reference pump; excellent for simple proteomics, metabolomics and biomarkers
- Agilent 6460 Triple Quad LCMS: mounted with AJS-ESI ion source and MS/MS technique; high sensitivity and selectivity; excellent for target quantitation via MRM technique

Matrix-Assisted Laser Desorption/Ionization Time-of-Flight (MALDI-ToF)

Location: GCIS Building in Room E240

- Bruker autoflex MALDI-ToF/ToF: installed with both linear and reflector detectors, MS and MS/MS techniques; capable of MALDI Imaging analysis such as mapping drugs/biomarkers/proteins/etc. in tissues; able for rapid identification of organisms from microbial cultures; excellent for rapid screening of non-volatile organics, inorganics, polymers, peptides/proteins, lipids, oligoes, etc.

Gas Chromatography (GC):

Location: GCIS Building in Room E449

- Agilent 7890B GC: installed with both FID and TCD detectors; ideal for the separation of permanent gas (H₂, CO, CH₄, CO₂, N₂, O₂, etc.) and light hydrocarbons (C₂-C₃)

Fourier Transform Infrared Spectroscopy (FT-IR)

Location: GCIS Building in Room E449

- Thermo Nicolet iS50 Advanced FT-IR: capable for near-, far-, and mid-IR measurements; two sample compartments, Main for transmission measurements and B-ATR (Built-in Attenuated Total Reflection) for reflection measurements; extra Smart SAGA (Specular Apertured Grazing Angle) Accessory for thin film analyses.

Inductively Coupled Plasma-Optical Emission Spectrometers (ICP-OES)

Location: Searle Building in Room 340D

- Thermo iCAP PRO DUO ICP-OES: which use an echelle optical design and a Charge Injection Device (CID) solid-state detector to measure trace elemental concentrations in a wide range of samples.

Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Location: GCIS Building in Room 547D

- Agilent 7700x ICP-MS: – workhorse unit for reliable high throughput analysis of unknown samples. The 7700x has an unparalleled 9 orders dynamic range, from sub-ppt to >500 ppm, in a single acquisition.

Publication Acknowledgments

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