

## Chemical Ecology LC-MS Facility

### Services and fees

The Cornell Chemical Ecology Group provides a fully maintained triple quadrupole LC-MS system (Quantum Access; Thermo Scientific) as analytical service for Cornell faculty, staff, and students. The instrument is designed for identification and quantitation of small molecules and provides the following functionalities:

- ESI and APCI for analyte ionization
- MS/MS analysis with collision-induced fragmentation
- Full scan (mass range 30-3000 u) and selected ion monitoring
- Product/parent ion and neutral loss scan
- PDA detection
- HPLC and UPLC option for faster chromatography

The facility is located in E419 Corson Hall and operated under the overview of the Chemical Ecology Facility Committee. Facility services are provided to the Cornell community under a basic user fee structure charging a fixed fee per sample (see below).

#### User fees

Sample type	Fee per sample <sup>3</sup>
LC-MS general analysis <sup>1</sup>	\$22.10
LC-MS specific component analysis <sup>2</sup>	\$22.30
LC-UV/PDA analysis	\$10.35

<sup>1</sup>Metabolic profiling, for example

<sup>2</sup>Phytohormone analysis, for example

<sup>3</sup>Reference standards are analyzed for the same fee

#### Provided services

- Maintenance of the instrument and supply of general use solvents and HPLC columns by the facility manager.
- Consultation for choice of method, stationary, and mobile phases with the facility manager.
- Analysis of samples by the facility manager.
- A selection of standard HPLC columns is available for general use (see below). In case of high sample throughput, it is recommended for the user to provide a dedicated column. Specialized columns required for specific analytical applications are not covered by the user fee and have to be provided by the user upon consultation with the facility manager.
- A selection of commonly used solvents and buffer reagents is available in HPLC-MS grade quality (see below). Other specialized solvent-buffer systems have to be provided by the user after approval by the facility manager.

Not provided are buffers, reagents and disposables for sample preparation including filters and autosampler vials.

Filtration of extracts (0.1  $\mu\text{m}$ ) prior analysis is required to prevent instrument damage and extend column life-time.

**Before submitting samples** please contact the facility manager:

Katalin Boroczky

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## Columns, solvents, and additives

### Reversed-phase HPLC columns<sup>1</sup>

Column #	Manufacturer	Phase brand	Phase type	Column dimension	Particle size
1	Phenomenex	Gemini	NX-C18	150 x 2.0 mm	3 $\mu\text{m}$
2	Phenomenex	Gemini	NX-C18	50 x 2.0 mm	3 $\mu\text{m}$
3	Phenomenex	Gemini	NX-C18	150 x 4.6 mm	3 $\mu\text{m}$
4	Phenomenex	Gemini	C18	150 x 2.0 mm	3 $\mu\text{m}$
5	Phenomenex	Luna	Phenyl-hexyl	150 x 2.0 mm	3 $\mu\text{m}$

<sup>1</sup>See also the manufacturer's website:

<http://www.phenomenex.com/Products/HPLCDetail/Gemini>

<http://www.phenomenex.com/Products/HPLCDetail/luna>

### LC-MS-grade solvents

- Methanol
- Acetonitrile
- Millipore water
- 2-propanol

### LC-MS-grade additives (5 to 100 mM)

- Formic acid
- Acetic acid
- Ammonium acetate

