Rules and procedures for the use of the TRIPLE QUADRUPOLE MASS SPECTROMETER COUPLED TO AN ULTRA-HIGH-PERFORMANCE LIQUID CHROMATOGRAPH AND AN ION CHROMATOGRAPH (UHPLC-IC-MS/MS) acquired under the MUR Department of Excellence Project 2023–2027

ACADEMIC CONTACT
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Approved by the Department of Excellence Steering Committee on 3 September 2026

Approved by the Council of the Department of Food and Drug on 9 September 2026

Description of the equipment

The UHPLC-IC-MS/MS system consists of a triple quadrupole mass spectrometer coupled to two chromatography systems: an ultra-high-performance liquid chromatograph and an ion chromatograph.

The equipment is used for analytical applications involving small and large molecules and enables qualitative and quantitative analysis of ionic or ionisable compounds.

Main modules comprising the equipment:

- Vanquish Core UHPLC system, comprising a solvent delivery system with low-pressure quaternary mixing, a temperature-controlled column compartment and a temperature-controlled autosampler.

- Inuvion ion chromatography system, equipped with an isocratic pump compatible with aqueous and organic solvents, an autosampler and a conductivity detector.

- TSQ Quantis Plus mid-range triple quadrupole mass spectrometer with a mass range up to m/z 3000, equipped with an ESI source.

- Chromeleon software for instrument control and data processing.

Authorised permanent staff and trainers

Surname	First name	Dept./Centre	Contact
Vacondio	Federica	Food and Drug	federica.vacondio@unipr.it
Viglioli	Martina	Food and Drug	martina.viglioli@unipr.it

The list of authorised personnel is kept up to date and is available in Annex 2 to these Rules.

Access to and use of the equipment

1) Research groups in the ALIFAR Department with authorised users may access the equipment through their own staff, subject to prior booking on the dedicated Teams platform managed by the Technical Contact. Groups without a designated contact may contact the staff listed above. Access remains subject to booking on the Teams platform. Use of the equipment without a booking will result in a charge for a full working day, equivalent to eight hours. Only personnel who have completed the initial training (authorised personnel and trainers), or who have subsequently been trained by the trainers, may use the equipment.
2) Users from other University departments and external users may contact the Scientific Coordinator by completing the analysis request form (Annex 1).

Fees

Three user categories apply for the purpose of equipment usage fees:

1) ALIFAR Users: teaching and research staff of the University of Parma affiliated with the ALIFAR Department;
2) Internal Users: teaching and research staff of the University of Parma;
3) External Users: researchers and other staff from universities, research bodies and public and private institutions.

Type of analysis	**ALIFAR USER €/hour**	**INTERNAL USER €/hour**	**EXTERNAL USER €/sample***
LC-MS/MS analysis	8	15	300 (ALIFAR031)
IC-MS/MS analysis	10	20	350
Data processing	-	10	120
Analytical method development	-	50	3,000 (ALIFAR038)

* For every five determinations commissioned, the sixth is performed free of charge OR data processing fees are waived.

ALIFAR users who contribute their own research funds towards annual preventive maintenance contracts and/or comprehensive insurance, or towards repair costs, will not be charged usage fees until the amount contributed has been offset.

Annex 1. UHPLC-IC-MS/MS SYSTEM – ANALYSIS REQUEST FORM

To be emailed to the authorised personnel

Applicant details

UNIVERSITY OF PARMA INTERNAL USER
Dept./Centre:
Applicant:
User:
E-mail:
Telephone:

EXTERNAL USER
Organisation name:
VAT no./Tax code
Address:
Applicant:
User:
E-mail:
Telephone:

Sample information and type of analysis

Number of samples to be analysed (including replicates and blanks)	*E.g. 120 samples, or 50 samples in replicate + 10 blanks in replicate.*
Sample type (briefly describe, specifying the matrix)	*E.g. tryptic protein digest / aqueous methanol extract of a plant matrix / etc.*
Matrix clean-up	☐ **YES** ☐ **NO** Clean-up technique used: e.g. microfiltration; SPE; IAC; etc.
Solvent or solvent mixture in the sample	*E.g. H2O/CH3CN mixture 1:1 (v/v) + 0.1% HCOOH*
Hazards	☐ **flammable** ☐ **irritant** ☐ **acute toxicity** ☐ **harmful** ☐ **corrosive** ☐ **oxidising** ☐ **carcinogenic/mutagenic** ☐ **hazardous to the environment**
Target analytes (names/class) and m/z range	*E.g. peptides with MW <1000 Da; leucine enkephalin (MW 555.62)*
Estimated analyte concentration (specify units)	*E.g. 100 ppb or 100 µg/kg*
Type of analysis requested	☐ **LC-MS/MS analysis** ☐ **IC-MS/MS analysis** ☐ **Analytical method development**

Bookings may be cancelled up to the third working day before the requested date.

If the equipment is not used and the booking has not been cancelled in time, payment for the service is still required.

Date ……. Applicant's signature (research fund holder)

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Annex 2. List of personnel authorised to use the equipment

Permanent staff authorised as trainers			
Surname	**First name**	**Dept./Centre**	**Contact**
Vacondio	Federica	Food and Drug	federica.vacondio@unipr.it
Viglioli	Martina	Food and Drug	martina.viglioli@unipr.it
Non-permanent staff authorised as trainers and users			
Surname	**First name**	**Dept./Centre**	**Contact**
Croci	Nicole	Food and Drug	nicole.croci@unipr.it
Tagliazucchi	Lorenzo	Food and Drug	lorenzo.tagliazucchi@unipr.it