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Access to Equipment

EQUIPMENT	Cost per hour for Non-profit External User (€, excluding IVA/ VAT)	Cost per hour for profit /Business (€, excluding IVA/ VAT)	Independent users allowed (yes/no)
Ultra-performance Liquid Chromatography (UHPLC) **Manufacter:** Thermo Scientific **Model:** Ultimate 3000 The U-HPLC separates compounds. The high pressure capability of the U-HPLC allows the use of thin columns and high surface stationary phases, which can separate many compounds in short time. The U-HPLC is equipped with a quaternary pump, a solvent degasser, an autosampler, a column compartment with temperature control and a Diode Array Detector (DAD). This detector can be used to obtain the UV-Vis absorption spectra of separated compounds and to quantify molecules showing absorbance in the UV-Vis spectral region. Capable of: MSn, n up to 10. NOTE: Priority to LC-MS.	**24**	**27**	**no**
LC-MS: Ultra-performance Liquid Chromatography coupled to High Resolution Mass Spectrometry (UHPLC-HRMS) **Manufacter:** Thermo Scientific (U-HPLC) + Orbitrap (HRMS) **Model:** Ultimate 3000 (U-HPLC) + Elite (HRMS) The system can be used in any research area requiring identification and/or quantification of organic or inorganic compounds. The mass spectrometer (MS) is able to detect the m/z ratio of charged molecules or molecular systems. The high resolution and high accuracy usually gives the molecular formula of detected ions. The system is also capable of performing sequential (multistage) Mass Spectrometry, MSn. The combination of the exact masses, isotope distributions and fragmentations patterns allows for identification of many compounds. EletroSpay Ionization (ESI), for polar compounds, Atmospheric Pressure Chemical ionization (APCI), for less polar compounds, are available. The system can also be used to quantify molecules by following the intensity of m/z signals or of any fragments(s) produced by MSn with very high selectivity and sensitivity. Samples can be introduced directly into the MS (infusion) or via U-HPLC. The U-HPLC separates the compounds before they arrive into the MS. The high pressure capability of the U-HPLC allows the use of thin columns and high surface stationary phases, which can separate many compounds in short time. The U-HPLC is equipped with a quaternary pump, a solvent degasser, an autosampler, a column compartment with temperature control and a Diode Array Detector (DAD). This detector can be used to obtain the UV-Vis absorption spectra of separated compounds and to quantify molecules showing absorbance in the UV-Vis spectral region.	**67**	**78**	**no**

Nuclear Magnetic Resonance 500 MHz (NMR) **Manufacter:** JOEL **Model:** JNM-ECZ500R/S3 The NMR detects the nuclear spin of atoms such as hydrogens. When placed in a magnetic field, these nuclei, that behave like tiny magnetic bars, align up or down, creating two energy levels. By using radiation with appropriate frequency, transition between levels can be induced. These transitions are sensitive to the magnetic molecular environment surrounding the nucleus and to the presence of other nuclei; this way they are a major source of structural information. Extras: Royal HFX probe (5 mm, triple resonance), 3 mm probe, autosampler.	**43**	**56**	**no**
High-performance liquid chromatography (HPLC) **Manufacter:** Knauer **Model:** Smarline This high performance liquid chromatograph uses a liquid mobile phase to separate the components of a mixture. The components are dissolved in a solvent and forced to flow through a chromatographic column under high pressure. In the column, the mixture is resolved into its components. The components flow through a detector and a chromatogram is generated. It equipment can be work in isocratic or gradient conditions. The instrument operates in a wavelength range of 190 to 400 nm. The evaporative light-scattering detectors deliver a signal for all compounds that do not evaporate or decompose during the mobile-phase to evaporation stage.			
HPLC with ELSD detector **Manufacter:** Knauer Smartline + Varian 380	**7.96**	**9.3**	**yes**
HPLC with UV detector **Manufacter:** Knauer Smartline + 2600 UV	**7.26**	**8.07**	**yes**
Multiplate reader **Manufacter:** Biotek **Model:** Synergy 4 A multi-mode detector that has an absorbance, fluorescence and luminescence detector. The absorbance monochromator provides wavelength selection from 200 to 999 nm in 1-nm increments. Area and spectral scanning, and pathlength correction are available read methods. Two types of fluorescence detection system are available with the Synergy 4, filter- and monochromator-based. The fluorescence monochromator system provides wavelength selection in 1-nm increments in the range of 250-750 nm (excitation) and 300-800 nm (emission). The luminescence system provides wavelength selection in 1-nm increments in the range of 300 to 700 nm. The Synergy 4 has a 4-Zone TM temperature control from 4ºC over ambient to 50ºC. Internal plate shaking is supported to ensure that reagents are properly mixed prior to reading. The Synergy supports the reading of 1-, 6-, 12-, 24-, 48-, 96-, 384-, and 1536-weel microplates, and 96-well half-area plates with 128x86 mm geometry.	**8**	**12.69**	**yes**

Multiplate reader **Manufacter:** Biotek **Model:** Synergy Neo 2 Multi-mode detector that has an absorbance, fluorescence and luminescence detector. The absorbance monochromator provides wavelength selection from 230 to 999 nm in 1-nm increments. Area and spectral scanning, and pathlength correction are available read methods. Two types of fluorescence detection system are available with the Synergy 4, filter- and monochromator-based. The fluorescence monochromator system provides wavelength selection in 1-nm increments in the range of 250-900 nm (excitation) and 250-900 nm (emission). The luminescence system provides wavelength selection in 1-nm increments in the range of 300 to 700 nm. The equipment temperature control from 4ºC over ambient to 65ºC. Internal plate shaking is supported to ensure that reagents are properly mixed prior to reading. The Synergy Neo supports the reading of 1-, 6-, 12-, 24-, 48-, 96-, 384-weel microplates.	**11**	**14**	**yes**
Automated Microwave Digestion System **Manufacter:** CEM **Model:** Discover SP-D 80 Enables a clear aqueous digest for elemental analysis by MP-AES, AA or ICP, ICP-MS. Since each vessel has its own method, you can mix and match samples and acids within the automation rack, providing your laboratory great flexibility. Digestion time is 10 minutes or less.	**15**	**17**	**yes**
UV-VIS Spectrophotometer **Manufacter:** Hitachi **Model:** U2000	**2.72**	**3.21**	**yes**
Balance **Manufacter:** Sartorius **Model:** QUINTIX224-1S Instrument capable of making precise measurements of weight of samples. Limited in precision to 0,1 mg.	**2.73**	**3**	**yes**
Microbalance **Manufacter:** Sartorius **Model:** MSA36S-000-DH A microbalance capable of making precise measurements of weight of samples of relatively small mass. Limited in precision to 0.001 milligrams.	**3.63**	**3.63**	**yes**

Gas Chromatography **Manufacter:** Bruker **Model:** TQ-456GC A gas chromatograph with mass spectrometry is an analytical equipment that allows the analysis of several compounds in a sample (identification and quantification).			
Gas Chromatography - Mass Spectrometry (GC-MS)			
• Complete processing of the sample	**24.7**	**26.25**	**no**
• Partial processing of the sample	**19.05**	**20.5**	**no**
• Without processing of the sample	**14.5**	**15.5**	**no**
Gas Chromatography - FID (GC-FID)			
• Complete processing of the sample	**25.4**	**29.56**	**no**
• Partial processing of the sample	**17.9**	**22.06**	**no**
• Without processing of the sample	**11.22**	**15.38**	**no**
Gas Chromatography - FID (GC-FID) with PTV injector			
• Complete processing of the sample	**21.48**	**24.38**	**no**
• Partial processing of the sample	**14.54**	**16.13**	**no**
• Without processing of the sample	**7.87**	**9.46**	**no**
High Performance Liquid Chromatography (HPLC) **Manufacter:** Knauer **Model:** Smartline + 380Varian The Smartline Knauer is a high performance liquid chromatograph. It uses a liquid mobile phase to separate the components of a mixture.			
• Sample reading (with ELSD detector)	**27.14**	**33.86**	**no**
• Sample reading with collection of fractions (with ELSD detector)	**34.32**	**36.68**	**no**
• Sample reading (with UV detector)	**26.68**	**29.04**	**no**
• Sample reading with collection of fractions (with UV detector)	**33.86**	**36.22**	**no**
Microwave Plasma Atomic Emission Spectrometer (MPAES) **Manufacter:** Agilent **Model:** 4200 It is used for simultaneous multi-analyte determination of major and minor elements. Allows for quantification of metals in matrices of different origins, after samples digestion or solubilization some organic solvents.			
• Aqueous Samples	**14.43**	**16.46**	**no**
• Organic Samples	**16.01**	**18.03**	**no**
• SIS Samples	**17.2**	**19.28**	**no**

Elementar analysis (C, H, N and Organic Carbon) **Manufacter:** Elementar **Model:** Vario EL III Allows for determination of carbon, hydrogen and nitrogen contents in solid samples.			
For Biological Samples:	**CHN**	**CHN**	
• Complete processing of the sample	**23,16 /sample**	**25,36 /sample**	**no**
• Partial processing of the sample	**17,18 /sample**	**19,38 /sample**	**no**
• Without processing of the sample	**15,98 /sample**	**18,18 /sample**	**no**
For sediment samples:	**10mg*** **	**10mg*** **	
• Partial processing of the sample	**18,95 /sample**	**21,73 /sample**	**no**
• Without processing of the sample	**17,76 /sample**	**23,83 /sample**	**no**