

Mass Spectrometer *LCMS-2020*

(Read before using and keep all the rules. Violations of these rules may be subject to financial penalties or prohibiting the use of the device.)

GENERAL RULES:

- Samples must be completely dissolved and must not be too concentrated! Maximal acceptable sample concentration is **40 µg/ml**.
- It's necessary to check LCMS instrument by running a standard sample and comparing the MS spectrum with the standard's spectrum (listed m/z values of the standard).
 - This procedure must be executed before measurement of your first sample and after measurement of your last sample!!!
- It's necessary to elute the LC column by pure solvent before measurement of your first sample and after measurement of each sample too!
- The correct sequence of all these steps is: Standard – Pure solvent – Sample 1 – Pure solvent – Sample 2 – Pure solvent – Last sample – Pure solvent – Standard – Pure solvent.

1) STARTUP

1. Check that the nitrogen generator is turned on and the supplied nitrogen to the MS has
 - a. gas supply pressure: 690 to 700 kPa
 - b. purity: 97% or greater
2. Start the PC and start Windows.
3. Check color of the [LabSolution Service] icon in the system tray on the taskbar:
 - Green = ready
 - Yellow = starting up - wait until icon will become green
 - Red = error - restart the PC
4. Double-click on [LabSolution Service] icon on the desktop.
5. Log in by your User ID.
6. Open the front cover and cover of the source window, carefully remove DL (desolvation line) plug from DL center hole and close both covers again.

2) MEASURING AND DATA ACQUISITION

1. Double-click on [LCMS Instrument] icon in LabSolution main window. The [Data Acquisition] sub-window will be opened now.
2. Check that [MS Ready] icon is displayed in the [Data Acquisition] sub-window.
3. Set the parameters for the single run (m/z range, acquisition time)
4. Put the Hamilton syringe with sample/standard/pure solvent into Single Syringe Infusion Pump instrument (placed on LCMS instrument).

5. Click on [Start] icon in the [Acquisition] assistant bar. [Single Run] sub-window will be opened.
6. Fill sample name in the [Single Run] sub-window.
7. Press [run/stop] keypad on Single Syringe Infusion Pump control panel and click on [OK] in [Single Run] sub-window to start the data acquisition. Data acquisition will end when the acquisition time will be elapsed.

(data acquisition is also possible stop manually before acquisition time will be elapsed: click on [Stop] icon in in the [Acquisition] assistant bar. to stop the data acquisition)
8. Click [Data Analysis] in the [Acquisition] assistant bar. The Postrun Analysis program will start now.
9. Click [MS Data Analysis] in the [Main] assistant bar. The [MS Data Analysis] window will open now and your MS spectrum will be displayed.
10. Measured MS spectrum is possible to print - click on [Print] icon.
11. Remove Hamilton syringe from Single Syringe Infusion Pump instrument and clean syringe with pure solvent!

3) SHUTDOWN

1. Exiting the LabSolution program:
 - 1) Close the [MS Data Analysis] sub-window..
 - 2) Close the [Data Acquisition] sub-window: click on [File] and select [Exit]. The [ShutDown] sub-window will be displayed now.
 - 3) Stop the pump and heater from the [ShutDown] sub-window and click [OK]. Shutdown processing will be performed now.
 - 4) Exit LabSolution: click on [File] in main window and select [Exit] – you will be automatically log off and LabSolution program will be closed.
2. Open the front cover and cover of the source window , return DL plug into DL center hole and close again both covers (this is absolutely necessary - the internal parts of the vacuum system might be contaminated if the instrument were left open to the atmosphere for a longer time!!!)
3. Shutdown the PC (don't turn off own LCMS-2020 unit and nitrogen generator!)