

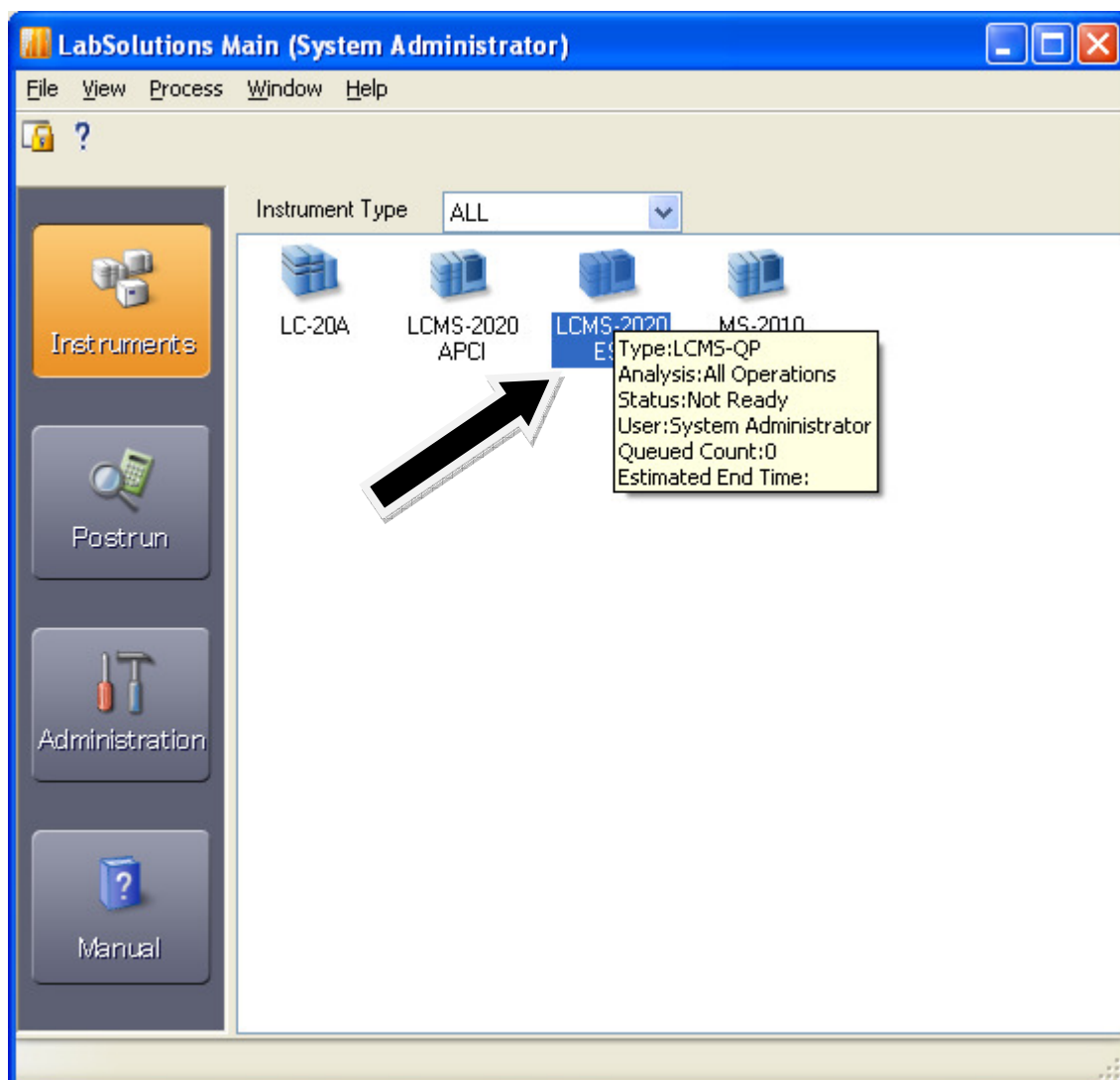
Hệ thống sắc ký lỏng khối phổ

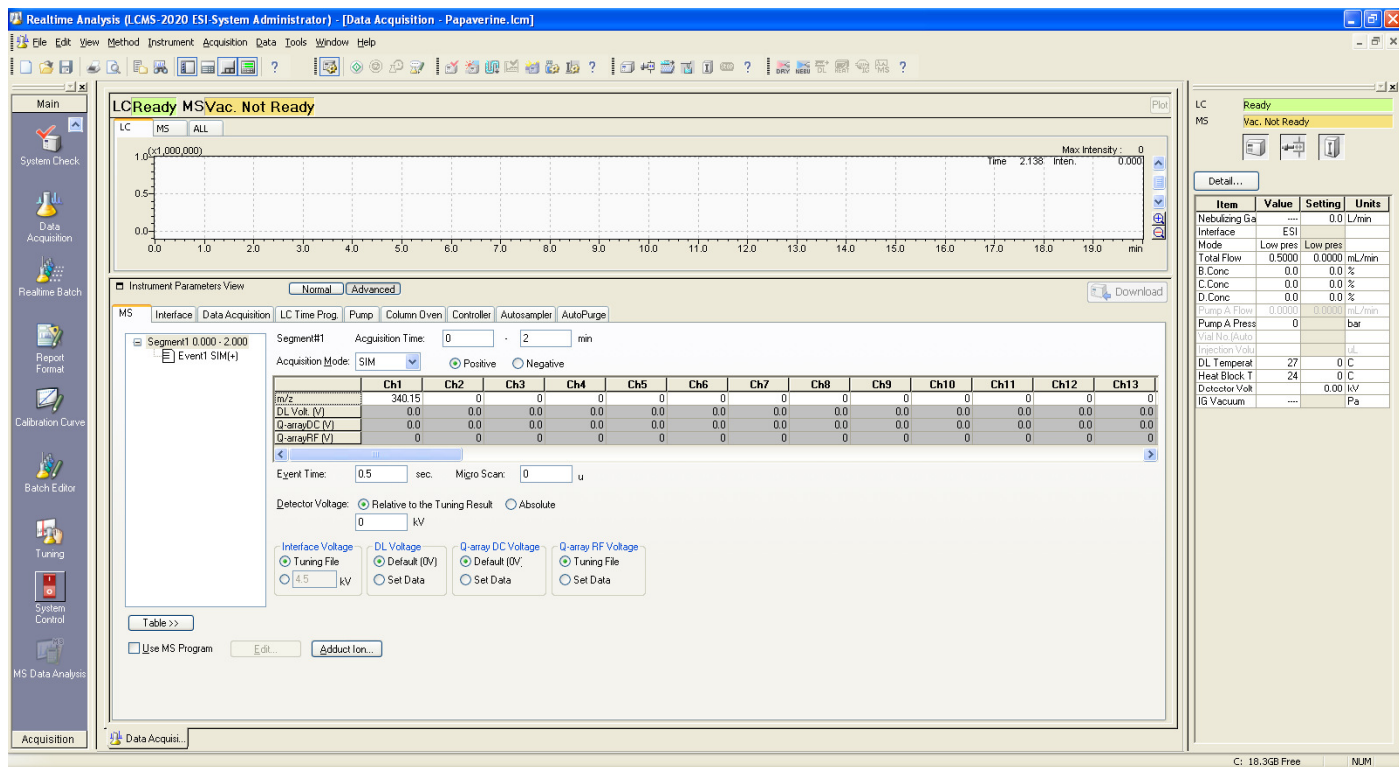
Model: LC/MS 2020

Hãng sx: SHIMADZU –
Nhật Bản

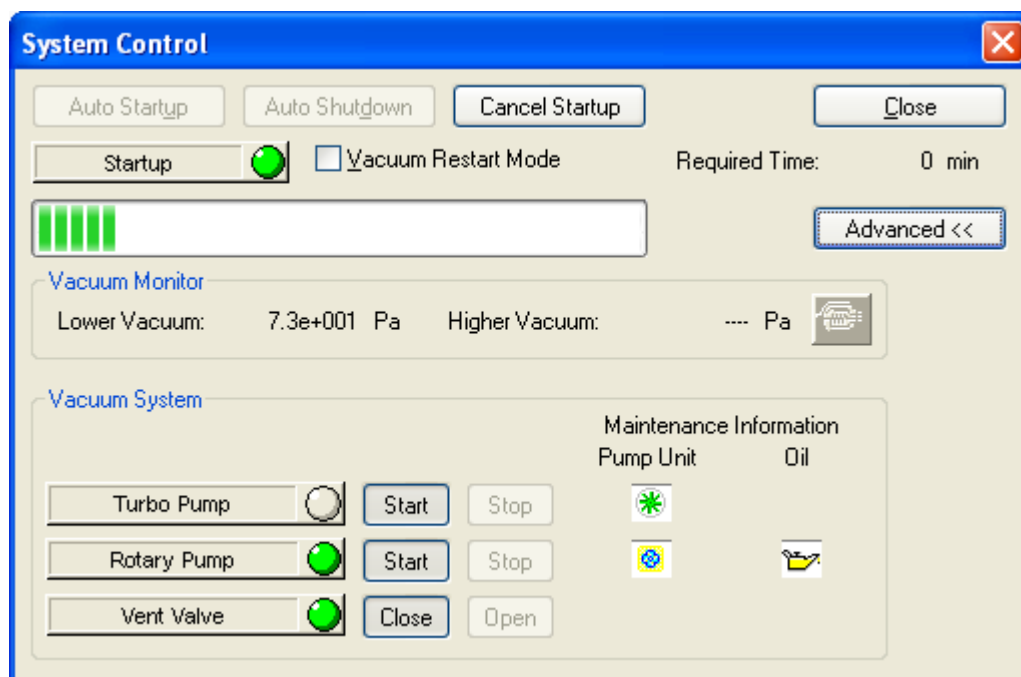
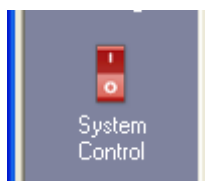


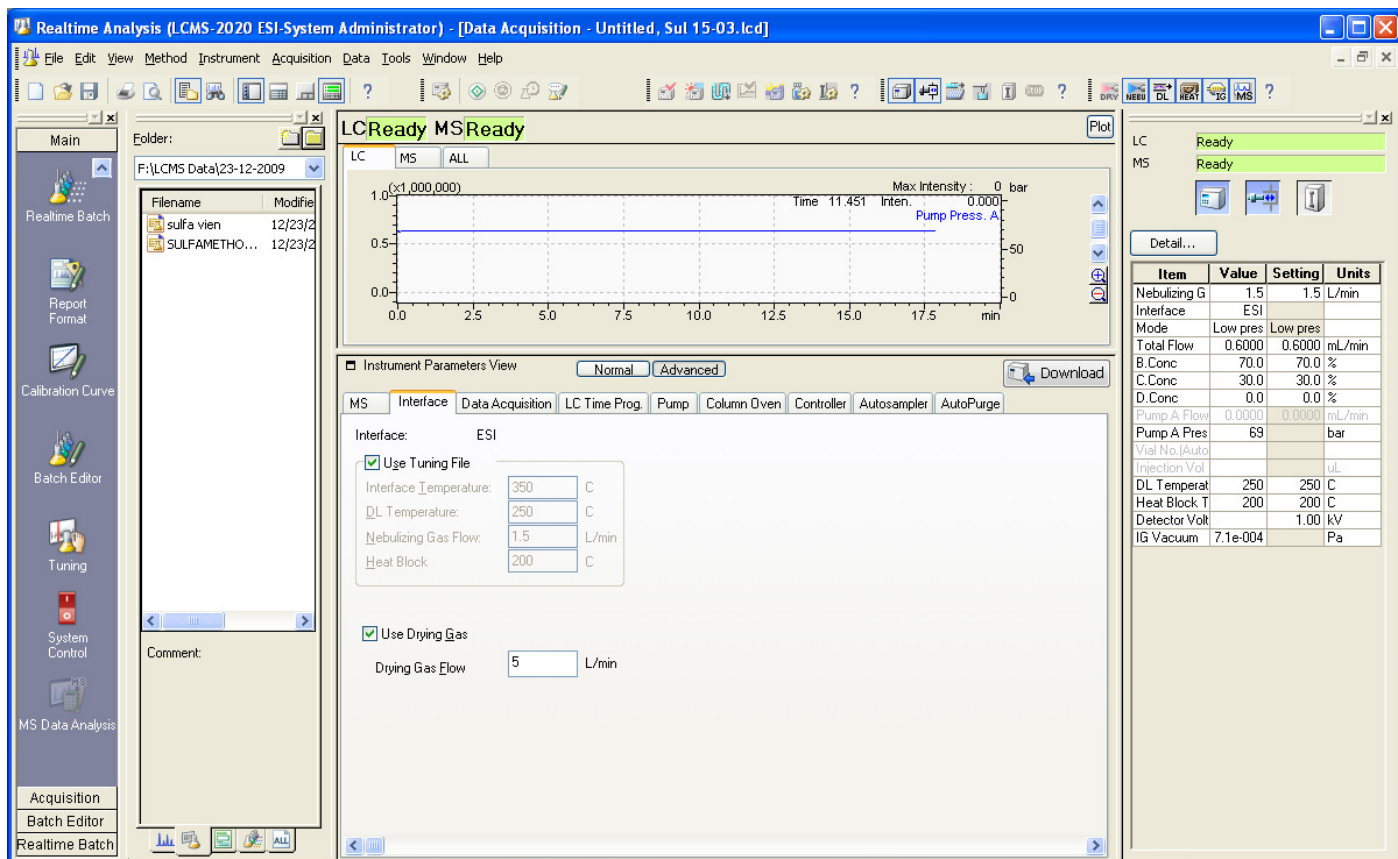
Mở phần mềm



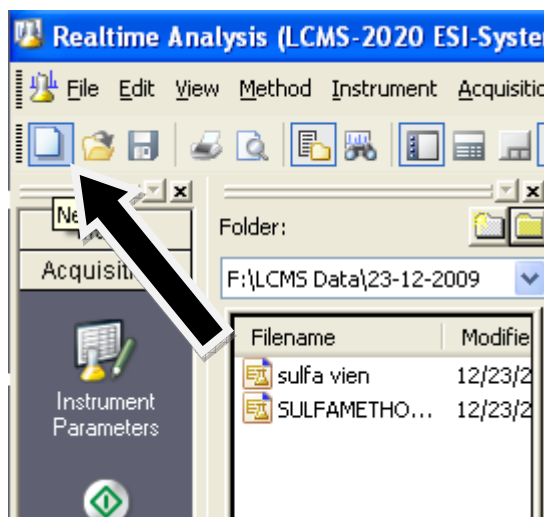


Khởi động hệ thống LCMS





Tạo phương pháp phân tích



Instrument Parameters View Normal Advanced Download

MS Interface Data Acquisition LC Time Prog. Pump Column Oven Controller Autosampler AutoPurge

Segment#1 Acquisition Time: 0 - 10 min

Acquisition Mode: Scan ☒ Positive ☐ Negative

Start m/z: SIM End m/z: 500

Scan Speed: 455 u/sec Threshold: 0

Event Time: 1 sec. Micro Scan: 0 u

Detector Voltage: ☒ Relative to the Tuning Result ☐ Absolute
0 kV

Interface Voltage: ☒ Tuning File ☐ 4.5 kV

DL Voltage: ☒ Default (0V) ☐ 0 V

Q-array DC Voltage: ☒ Default (0V) ☐ 0.0 V

Q-array RF Voltage: ☒ Tuning File ☐ 60 V

Table >>

Instrument Parameters View Normal Advanced Download

MS Interface Data Acquisition LC Time Prog. Pump Column Oven Controller Autosampler AutoPurge

Segment#1 Acquisition Time: 0 - 5 min

Acquisition Mode: SIM ☒ Positive ☐ Negative

	Ch1	Ch2	Ch3	Ch4	Ch5
m/z	254	0	0	0	0
DL Volt. (V)	0.0	0.0	0.0	0.0	0.0
Q-arrayDC (V)	0.0	0.0	0.0	0.0	0.0
Q-arrayRF (V)	0	0	0	0	0

Event Time: 1 sec. Micro Scan: 0 u

Detector Voltage: ☒ Relative to the Tuning Result ☐ Absolute
0 kV

Interface Voltage: ☒ Tuning File ☐ 4.5 kV

DL Voltage: ☒ Default (0V) ☐ Set Data

Q-array DC Voltage: ☒ Default (0V) ☐ Set Data

Q-array RF Voltage: ☒ Tuning File ☐ Set Data

Table >>

Or

Instrument Parameters View Normal Advanced Download

MS Interface Data Acquisition LC Time Prog. Pump Column Oven Controller Autosampler AutoPurge

Segment1 0.000 - 5.000
Event1 Scan(+)

Segment#1 Acquisition Time: 0 - 5 min

Acquisition Mode: Scan Positive Negative

Start m/z: 200 End m/z: 300

Scan Speed: 1072 u/sec Threshold: 0

Event Time: 0.1 sec. Micro Scan: 0 u

Detector Voltage: Relative to the Tuning Result Absolute
0 kV

Interface Voltage: Tuning File 4.5 kV

DL Voltage: Default (0V) 0 V

Q-array DC Voltage: Default (0V) 0.0 V

Q-array RF Voltage: Tuning File 60 V

Table >>

Instrument Parameters View Normal Advanced Download

MS Interface Data Acquisition LC Time Prog. Pump Column Oven Controller Autosampler AutoPurge

Interface: ESI

☒ Use Tuning File

Interface Temperature: 350 C

DL Temperature: 250 C

Nebulizing Gas Flow: 1.5 L/min

Heat Block: 200 C

☒ Use Drying Gas

Drying Gas Flow: 5 L/min

Instrument Parameters View

Normal

Advanced

Download

MS

Interface

Data Acquisition

LC Time Prog.

Pump

Column Oven

Controller

Autosampler

AutoPurge

LC Time Program

LC Stop Time:

5

min

Apply to All acquisition time

Instrument Parameters View

Normal

Advanced

Download

MS

Interface

Data Acquisition

LC Time Prog.

Pump

Column Oven

Controller

Autosampler

AutoPurge

Mode

Low pressure gradient

Total Pump A Flow:

0.6

mL/min

Solvent B Conc.:

70

%

Solvent C Conc.:

30

%

Solvent D Conc.:

0.0

%

Solvent B Curve:

0

Solvent C Curve:

0

Solvent D Curve:

0

Configured Pumps

Pump A:

LC-20AD

Pump B:

Pump C:

Pump D:

Pressure Limits (Pump A)

Maximum:

200

bar

Minimum:

0

bar

Solenoid Valve

Pump A:

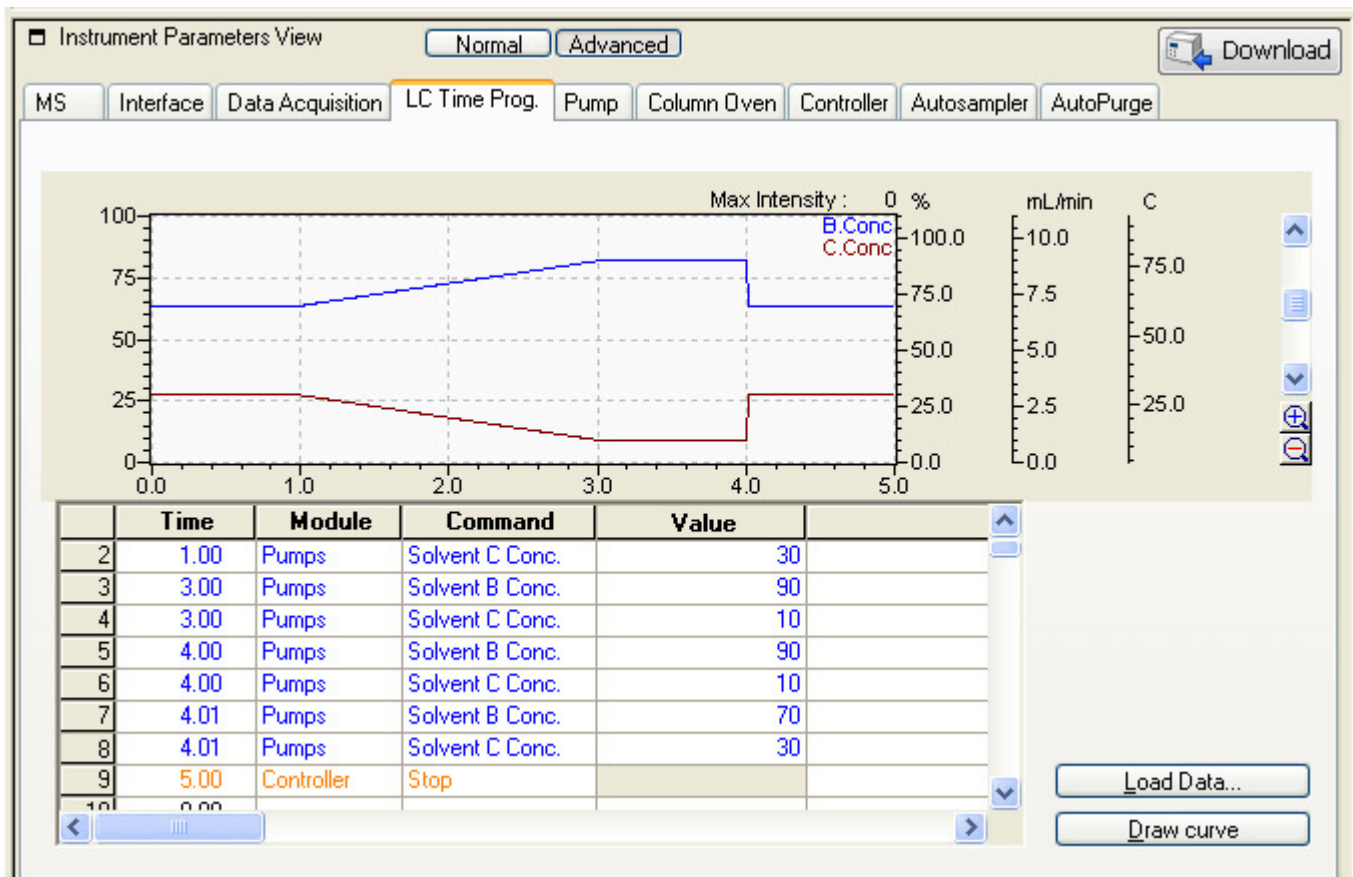
LPGE Unit

A

Pump B:

Pump C:

Pump D:



Instrument Parameters View

Normal Advanced

Download

MS Interface Data Acquisition LC Time Prog. Pump Column Oven Controller Autosampler AutoPurge

Model: CTO-20A

☒ Column Oven

Oven Temperature: 40 C Temperature Limit(Maximum): 90 C

Instrument Parameters View

Normal Advanced

Download

MS Interface Data Acquisition LC Time Prog. Pump Column Oven Controller Autosampler AutoPurge

Model: SIL-20A

☒ Autosampler

Sample Rack: Rack 1.5 mL 105 vials Detect Rack

Rinsing Volume: 200 uL

Needle Stroke: 52 mm

Control Vial Needle Stroke: 52 mm

Rinsing Speed: 35 uL/sec

Sample Suction Speed: 15 uL/sec

Purge Time: 25.0 min

Rinse Mode: Before and after aspiration

Rinse Dip Time: 0 sec

☐ Cooler Temperature: 15 C

Instrument Parameters View

Normal Advanced

Download

MS Interface Data Acquisition LC Time Prog. Pump Column Oven Controller Autosampler AutoPurge

Purge Order	Mobile Phase	Purge Time
1st:	Mobile Phase B	3 min
2nd:	Mobile Phase C	3 min
3rd:	None	5 min
4th:	None	5 min
☒ Auto-sampler:		5 min
☐ Init. Conc.-Replacement:		5 min

Purged Pump

Pump A: LC-20AD

Realtime Analysis (LCMS-2020 ESI-Sy

File Edit View Method Instrument Acq

- New Method File Ctrl+N
- Open Method File... Ctrl+O
- Close Method File
- Save Method File Ctrl+S
- Save Method File As...
- Save Method File As Template...

Save Method File As

Save in: 23-12-2009

sulfa vien

SULFAMETHOXAZOLE

File name: SULFAMETHOXAZOLE

Save

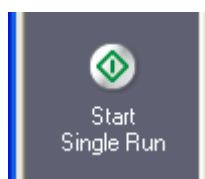
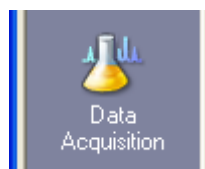
Save type: LC Method File (*.lcm)

Cancel

Download



Tiêm một mẫu



Single Run [X]

Acquisition Information

Sample Name:

Sample ID:

Method File:

Data File: Create into:

[Folder Icon]

☒ Auto-Increment: [Dropdown]

☐ Report: [Folder Icon]

Data Comment:

Sampler

Vial#: Tray:

Injection Volume: uL

Other Handling

Tuning File: [Folder Icon]

Background Data File: [Folder Icon]

Quantitative

Type: Unknown [Dropdown] Calibration Level:

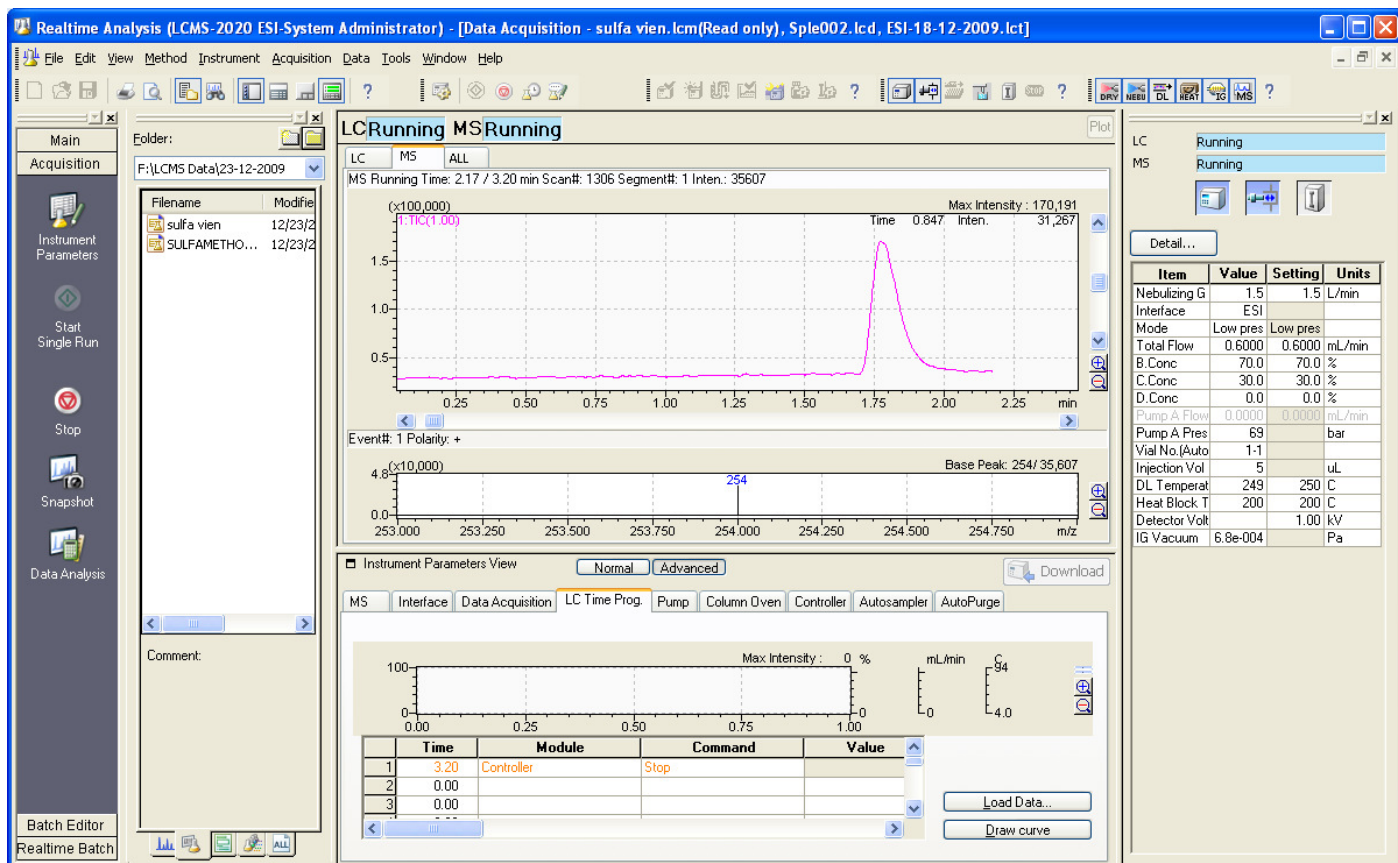
ISTD Amount #1: [Dropdown] Sample Amount:

Dilution Factor:

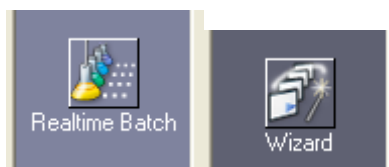
Data Processing

☒ TIC Peak Integration ☐ Make Spectrum Process Table

☐ Library Search ☐ Quantitative



Tạo bảng tiêm nhiều mẫu



Batch Table Wizard

Batch Table: ☒ New ☐ Append

Method File: sulfa vien.lcm

Autosampler

☐ Tray Definition: Rack 1.5 mL 105 vials

Tray: 1

Injection Volume: 10 uL

MS Data Processing: ☐ Qualitative ☒ Quantitative

Select standard location in the sequence.

Number of Sample Groups: 1

☐ Unknown Only

☐ Standard Only

☒ Standard & Unknown

☐ Bracket Calibration

Bracketing: Overlap

☐ Use the same vial(s) in Bracket

< Back Next > Cancel Help

Batch Table Wizard - Standard Sample



Standard Sample

Sample Name: ☐ Auto-increment

Sample ID: ☒ Auto-increment

Data File Name:

☐ Create file names automatically

 ☒ Auto-increment

Number of Calibration Levels:

Number of Standard Sample Vials per Level:

Repetitions per Run:

Vial # -

☒ Clear all calibrations at the beginning

☐ Use the same standard sample vial for all groups

☐ Print Report

Report Format File: 

Data Comment:

< Back Next > Cancel Help

Batch Table Wizard - Unknown Sample



Unknown Sample

Sample Name: ☐ Auto-increment

Sample ID: ☒ Auto-increment

Data File Name:

☐ Create file names automatically

 ☒ Auto-increment

Number of Unknown Sample Vials in each:

Repetitions per Run:

Vial # -

☐ Print Report

Report Format File: 

Data Comment:

< Back Next > Cancel Help

Batch Table Wizard - Other Settings



Auto Conditioning

☐ Startup Set the startup method and pumping period.
Please set the start date and time in the batch settings.

↓

☐ AutoPurge Perform AutoPurge using the specified
condition in method.

↓

☐ Baseline Check

↓

(Acquire)

↓

☒ Shutdown Set the shutdown method and cool down time.

QA/QC Samples

☐ Insert QA/QC Samples

< Back Next > Cancel Help

Batch Table Wizard - Save Batch File



Batch File

☒ Save Batch File

Batch File Name: 

< Back Finish Cancel Help

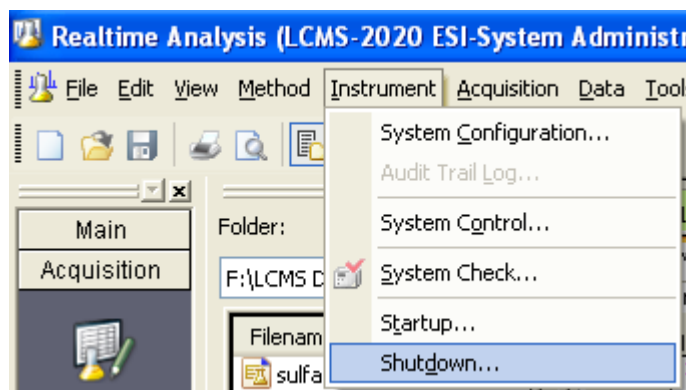
Folder: F:\LCMS Data\23-12-2009

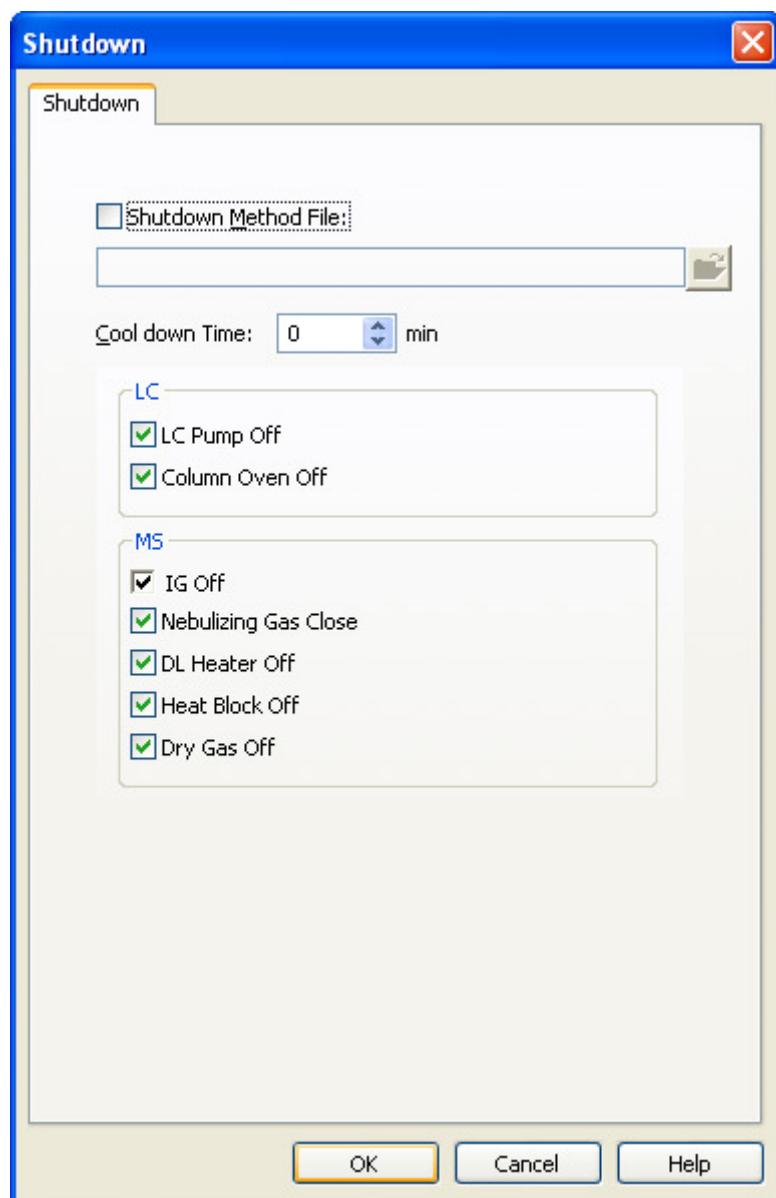
Analysis	Vial#	Tray Name	Sample Name	Sample ID	Sample Type	Analysis Type	Method File	Data File	Level#	Inj. Volume	Report 0
1	1	1	Standard Sample	STD-0001	1:Standard	MIT MQT	sulfa vien.lcm	STD001.lcd	1	10	
2	1	1	Standard Sample	STD-0002	1:Standard	MIT MQT	sulfa vien.lcm	STD002.lcd	1	10	
3	2	1	Standard Sample	STD-0003	1:Standard	MIT MQT	sulfa vien.lcm	STD003.lcd	2	10	
4	2	1	Standard Sample	STD-0004	1:Standard	MIT MQT	sulfa vien.lcm	STD004.lcd	2	10	
5	3	1	Standard Sample	STD-0005	1:Standard	MIT MQT	sulfa vien.lcm	STD005.lcd	3	10	
6	3	1	Standard Sample	STD-0006	1:Standard	MIT MQT	sulfa vien.lcm	STD006.lcd	3	10	
7	4	1	Unknown Sample	UNK-0001	0:Unknown	MIT MQT	sulfa vien.lcm	Samp001.lcd			
8	4	1	Unknown Sample	UNK-0002	0:Unknown	MIT MQT	sulfa vien.lcm	Samp002.lcd			
9	5	1	Unknown Sample	UNK-0003	0:Unknown	MIT MQT	sulfa vien.lcm	Samp003.lcd			
10	5	1	Unknown Sample	UNK-0004	0:Unknown	MIT MQT	sulfa vien.lcm	Samp004.lcd			
11	6	1	Unknown Sample	UNK-0005	0:Unknown	MIT MQT	sulfa vien.lcm	Samp005.lcd			
12	6	1	Unknown Sample	UNK-0006	0:Unknown	MIT MQT	sulfa vien.lcm	Samp006.lcd			
13	7	1	Unknown Sample	UNK-0007	0:Unknown	MIT MQT	sulfa vien.lcm	Samp007.lcd			
14	7	1	Unknown Sample	UNK-0008	0:Unknown	MIT MQT	sulfa vien.lcm	Samp008.lcd			
15	8	1	Unknown Sample	UNK-0009	0:Unknown	MIT MQT	sulfa vien.lcm	Samp009.lcd			
16	8	1	Unknown Sample	UNK-0010	0:Unknown	MIT MQT	sulfa vien.lcm	Samp010.lcd			

Fill Series
Fill Down
Cut
Copy
Paste
Copy Entire Table
Clear
Select Row
Select All



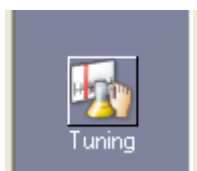
Tắt máy

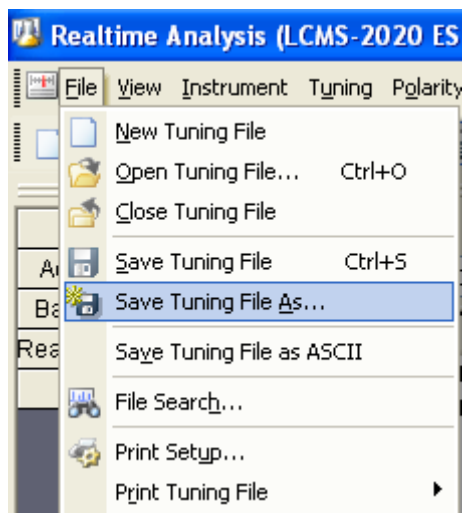
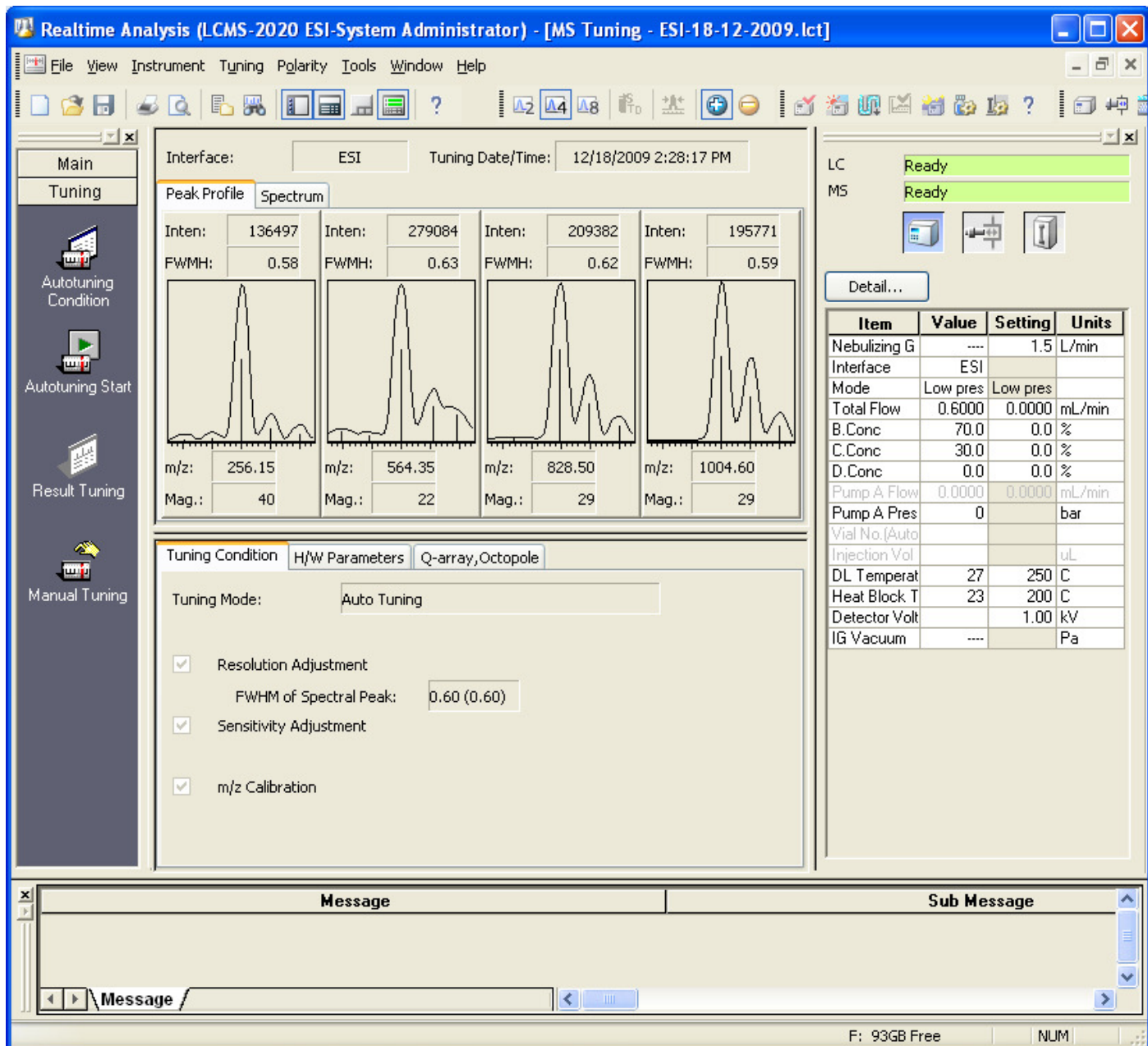


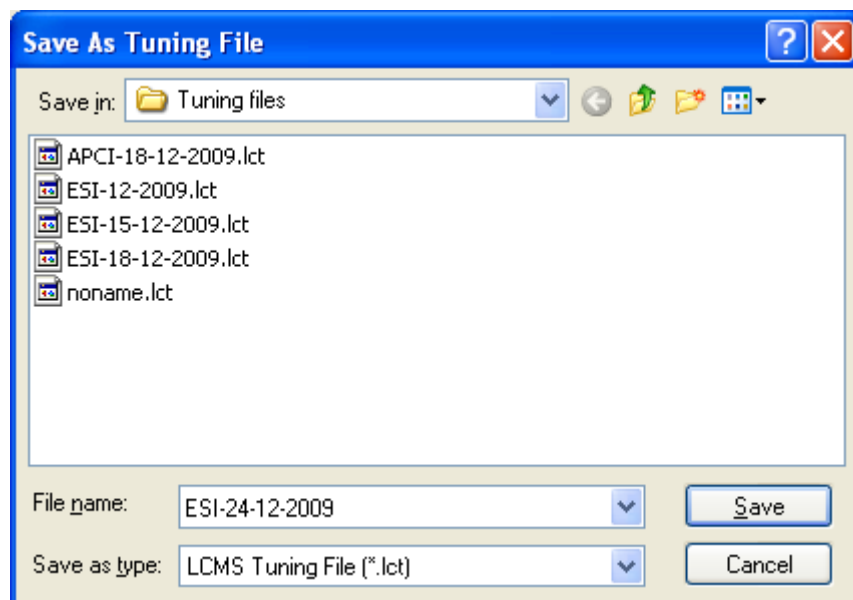


Hiệu chuẩn máy

Nối ống mao quản SI từ bình chứa dung dịch chuẩn máy







Tắt hệ thống LCMS an toàn

