



MassHunter Basics

Agilent ICP-MS Familiarization Slideset

Rev.3.0.2 – February 2021

MassHunter Basics Modules

- After installing Agilent ICP-MS with MassHunter Workstation, your Agilent representative will familiarize you with your ICP-MS and MassHunter using the MassHunter Basic Modules.
- This slide set lists main items to be explained during the Standard Familiarization by Agilent service provider.

Standard Familiarization Time

Topics	Approx. Video Time	Standard Familiarization Time
1.1 MassHunter Overview	0:08:00	0:10:00
1.2 Turn On ICP-MS	0:02:00	0:05:00
1.3 Plasma On and Startup	0:07:00	0:10:00
1.4 Performance Report	0:02:30	0:05:00
1.5 Creating a Batch	0:06:30	0:10:00
1.6 Setting up a Batch (1/3) – Acquisition Method	0:13:30	0:15:00
1.7 Setting up a Batch (2/3) – Data Analysis Method	0:06:30	0:10:00
1.8 Setting up a Batch (3/3) – Sample List	0:03:30	0:05:00
1.9 Tune Overview	0:06:30	0:10:00
1.10 Running a Batch	0:02:30	0:05:00
1.11 Editing a Batch in Queue	0:04:00	0:05:00
1.12 Data Analysis Overview	0:12:00	0:15:00
1.13 Quantitative	0:11:00	0:15:00
1.14 Report	0:02:30	0:05:00
1.15 Maintenance and EMF	0:06:00	0:10:00
1.16 A Typical Workflow of Routine Analysis	0:05:00	0:10:00
Total Approx. Time	1:31:00	2:25:00
* It is not mandatory to use videos.		



1.1 MassHunter Overview

Std. Familiarization Time: 0:10:00

Approximate Video Time: 0:08:00

[Play the Video](#)

Standard configuration and options for Agilent 7900

opt.101 UHMI	opt.102 Advanced Acq.	Function	Typical Application
X		Ultra HMI (UHMI)	Environmental
X		Method automation	General
	X	TRA Data Acquisition, Fast TRA	Speciation
	X	Timechart data analysis	Research, Academic
	X	Half Mass, Narrow Peak	Research, Academic
	X	Isotope Ratio, Isotope Dilution analysis	Research, Academic
	X	Organic Solvent mode for Plasma Ignition	Organic solvent
	X	Support Option Gas line (20% O2/Ar)	Organic solvent
	X	Support Laser Ablation as Sample Introduction	Laser Ablation
	X	Support 3 rd Cell gas line	Research, Academic



Standard configuration and options for Agilent 7800

Function	Typical Application
TRA Data Acquisition	Speciation
Timechart data analysis	Research, Academic
Half Mass, Narrow Peak	Research, Academic
Isotope Ratio, Isotope Dilution analysis	Research, Academic
Organic Solvent mode for Plasma Ignition	Organic solvent
Support Option Gas lin (20% O2/Ar)	Organic solvent
Support Laser Ablation as Sample Introduction	Laser Ablation
Support 3rd Cell gas line	Research, Academic

Starting the MassHunter Workstation

[ICP-MS Instrument Control]

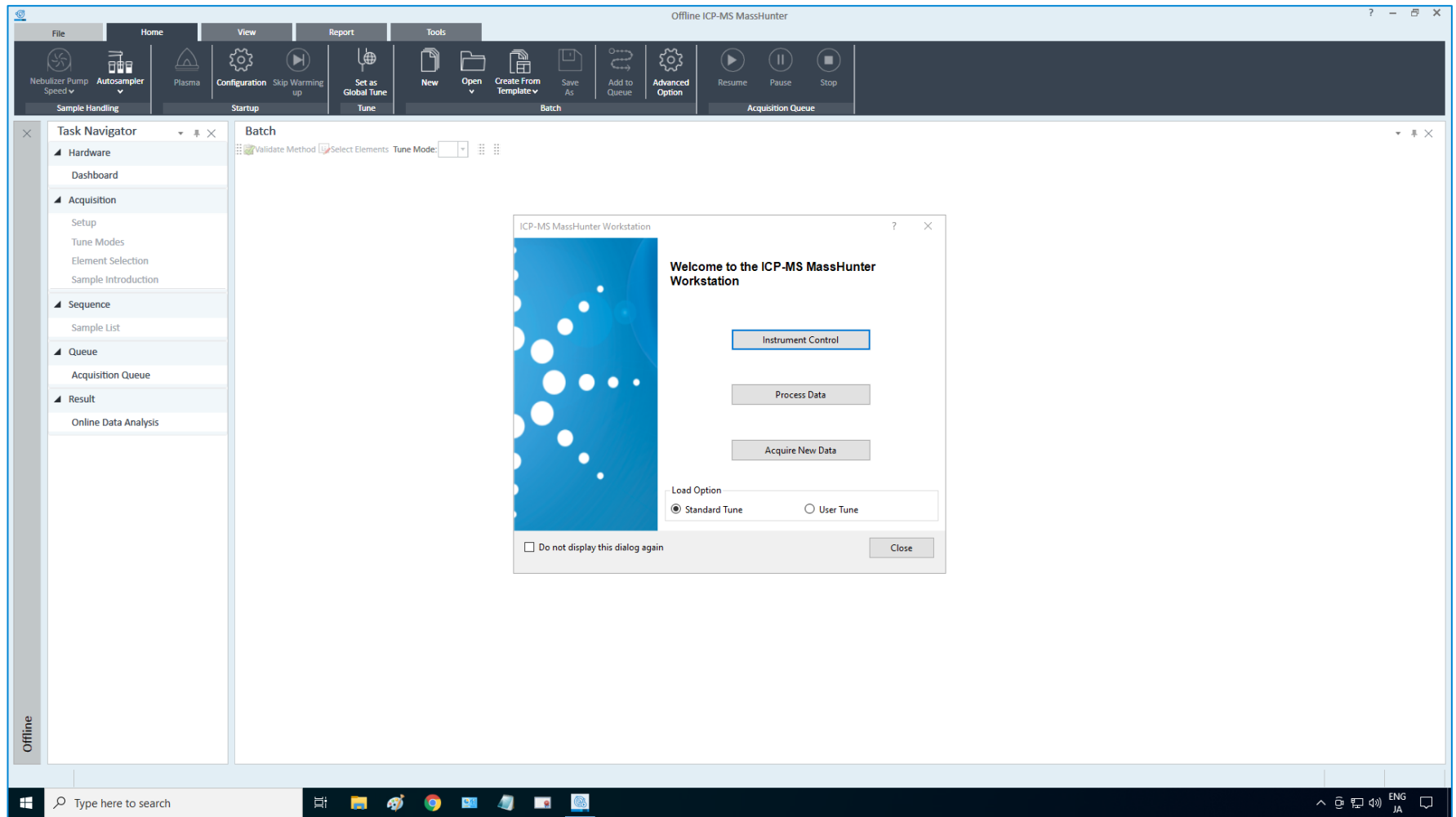
- [ICP-MS MassHunter Workstation] > [ICP-MS Instrument Control]

[Offline Data Analysis]

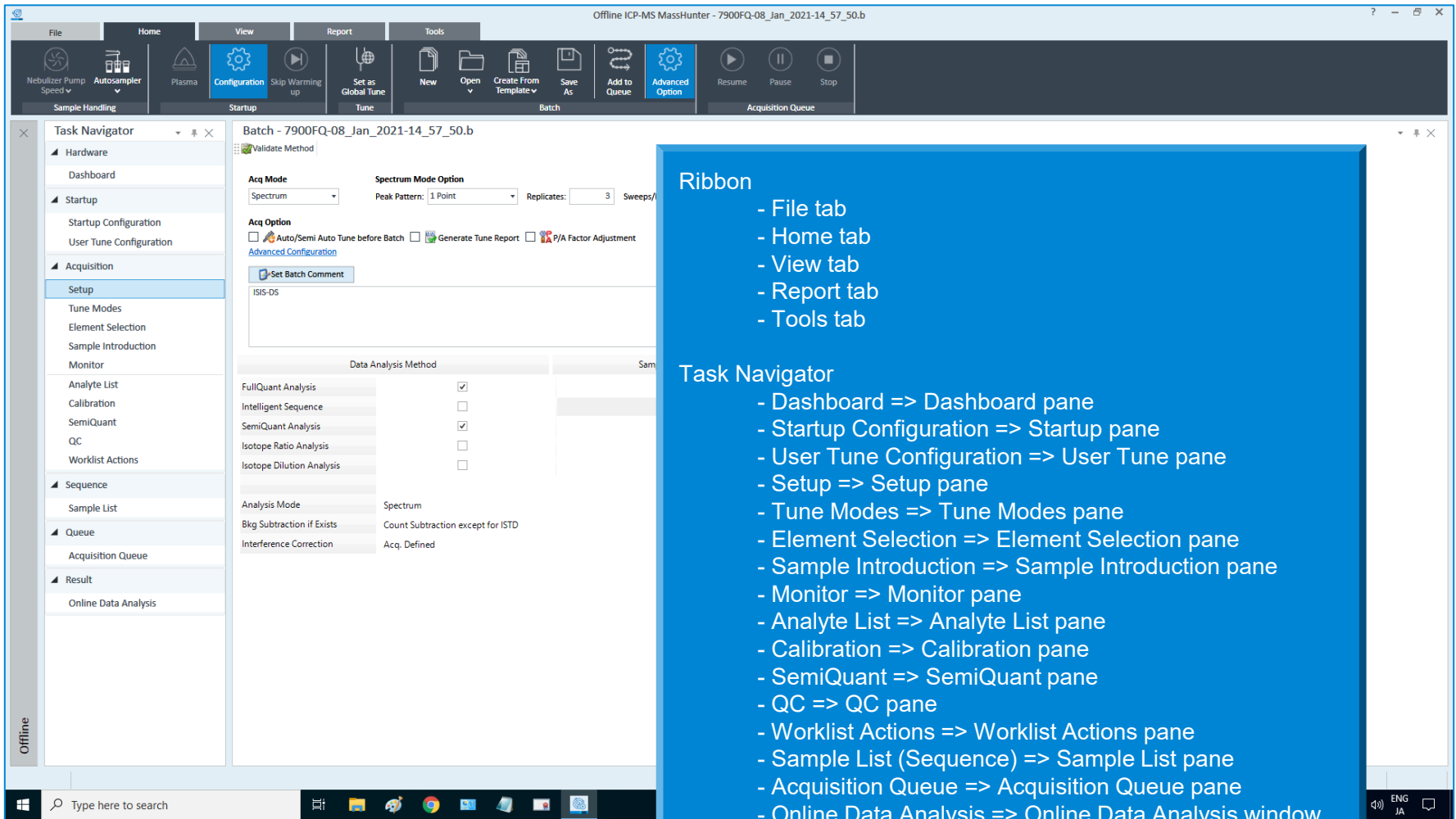
- [ICP-MS MassHunter Workstation] > [Offline Data Analysis]

or open from the desktop icons

Operations on the Welcome screen



Ribbon and Task Navigator



The screenshot displays the Agilent MassHunter software interface. The top ribbon contains tabs for File, Home, View, Report, and Tools. The Task Navigator on the left lists various tasks, with 'Setup' currently selected. The main workspace shows the 'Batch - 7900FQ-08_Jan_2021-14_57_50.b' configuration, including 'Acq Mode' (Spectrum), 'Spectrum Mode Option' (Peak Pattern: 1 Point, Replicates: 3, Sweeps: 4), and 'Acq Option' (Auto/Semi Auto Tune before Batch, Generate Tune Report, P/A Factor Adjustment). The 'Data Analysis Method' table is also visible.

Ribbon

- File tab
- Home tab
- View tab
- Report tab
- Tools tab

Task Navigator

- Dashboard => Dashboard pane
- Startup Configuration => Startup pane
- User Tune Configuration => User Tune pane
- Setup => Setup pane
- Tune Modes => Tune Modes pane
- Element Selection => Element Selection pane
- Sample Introduction => Sample Introduction pane
- Monitor => Monitor pane
- Analyte List => Analyte List pane
- Calibration => Calibration pane
- SemiQuant => SemiQuant pane
- QC => QC pane
- Worklist Actions => Worklist Actions pane
- Sample List (Sequence) => Sample List pane
- Acquisition Queue => Acquisition Queue pane
- Online Data Analysis => Online Data Analysis window

Use Auto Sampler

Offline ICP-MS MassHunter - 7900FQ-08_Jan_2021-15_18_40.b

File Home View Report Tools

Settings Offline Data Analysis Actions Archive

Settings DA Script Batch Archive

Task Navigator

- Hardware
- Dashboard
- Startup
 - Startup Configuration
 - User Tune Configuration
- Acquisition
 - Setup
 - Tune Modes
 - Element Selection
 - Sample Introduction
 - Monitor
- Analyte List
- Calibration
- SemiQuant
- QC
- Worklist Actions
- Sequence
 - Sample List
- Queue
 - Acquisition Queue
- Result
 - Online Data Analysis

Batch - 7900FQ-08_Jan_2021-15_18_40.b

Validate Method

Acq Mode: Spectrum Spectrum Mode: 1 P

Acq Option: ☐ Auto/Semi Auto Tune before Batch ☐ Advanced Configuration

Set Batch Comment

ISIS-DS

Data Analysis Method

- FullQuant Analysis
- Intelligent Sequence
- SemiQuant Analysis
- Isotope Ratio Analysis
- Isotope Dilution Analysis

Analysis Mode: Spectrum

Bkg Subtraction if Exists: Count Subtract

Interference Correction: Acq. Defined

Hardware

Settings

Mainframe

Sample Introduction

Properties

Configure Autosampler

Type Rack COM Port Probe Depth Advanced

Autosampler Type: SPS 4 ASX-520 Agilent I-AS EXR-8/XLR-860 ASX-110 SPS 4

Select the Autosampler Type

OK Cancel

Nebulizer Test

Maintenance

Sample Introduction Maintenance

SPS 4 Maintenance Mode

Close



1.2

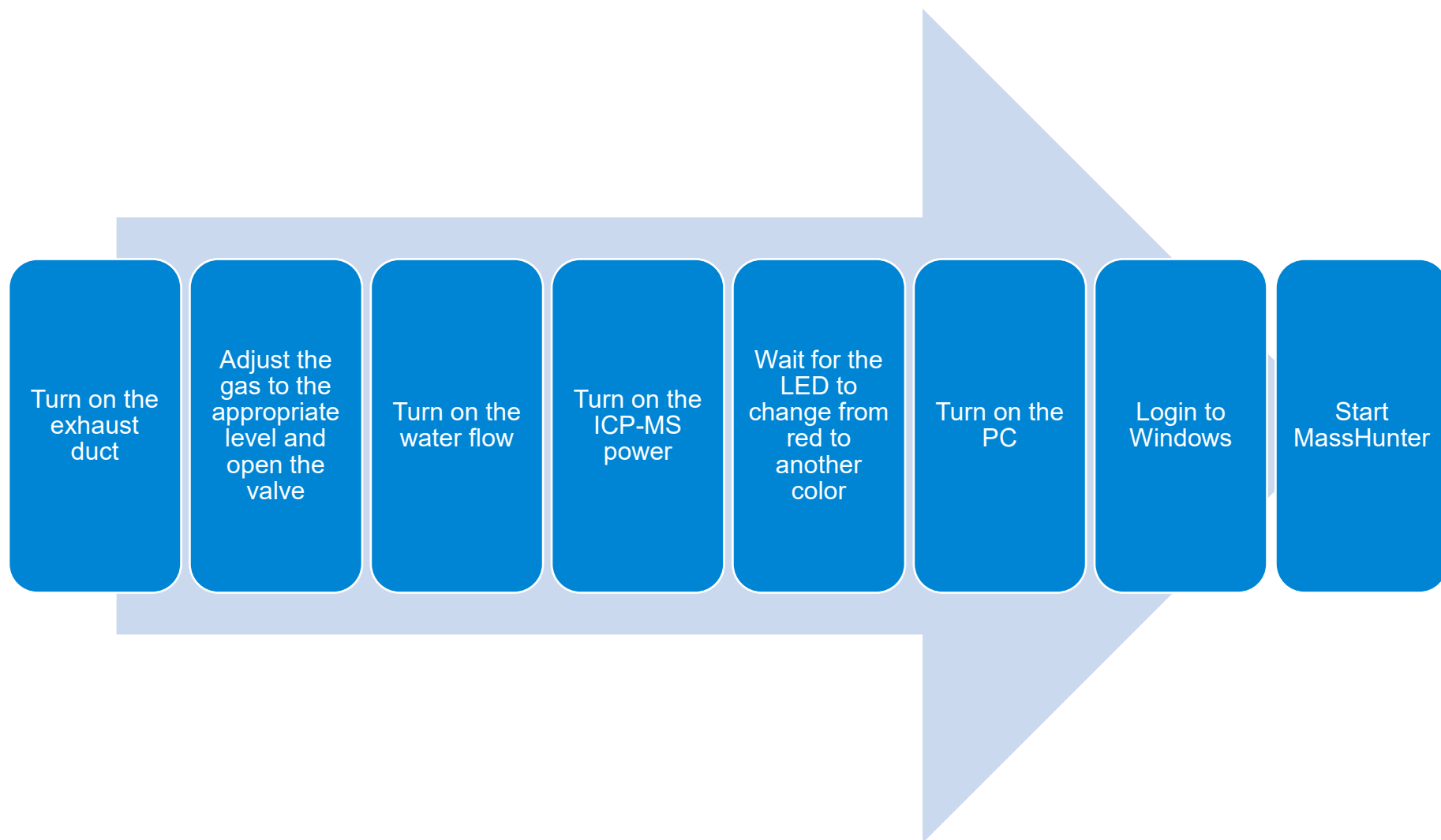
Turn On ICP-MS

Std. Familiarization Time: 0:05:00

Approximate Video Time: 0:02:00

[Play the Video](#)

Turn On ICP-MS





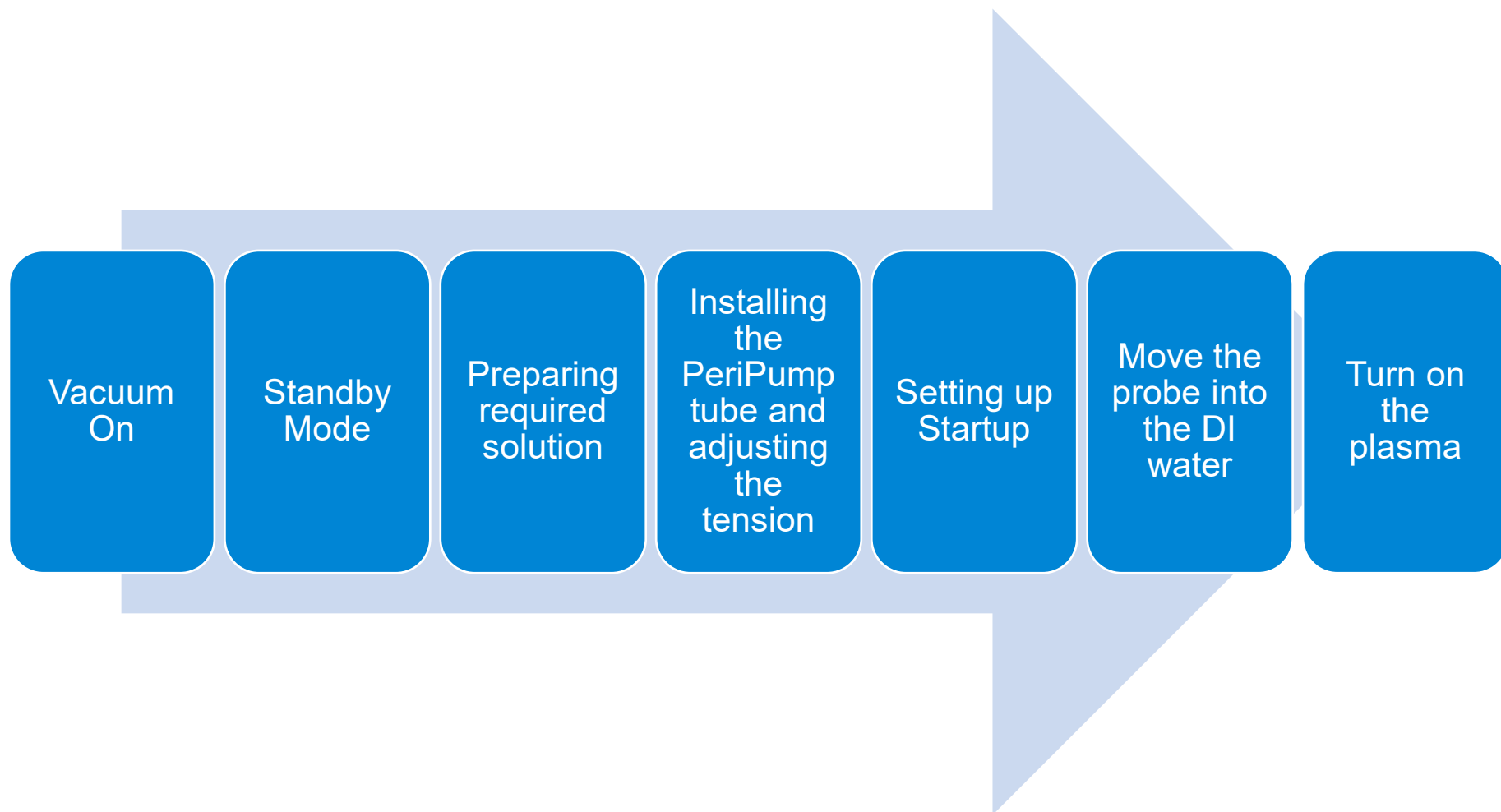
1.3 Plasma On and Startup

Std. Familiarization Time: 0:10:00

Approximate Video Time: 0:07:00

[Play the Video](#)

Plasma On



Others

- [Status Viewer]
- [Skip Warm-up]
- [Plasma Off at End]
- Startup when turning on the plasma
- [Configure Ignition Sequence]





1.4

Performance Report

Std. Familiarization Time: 0:05:00

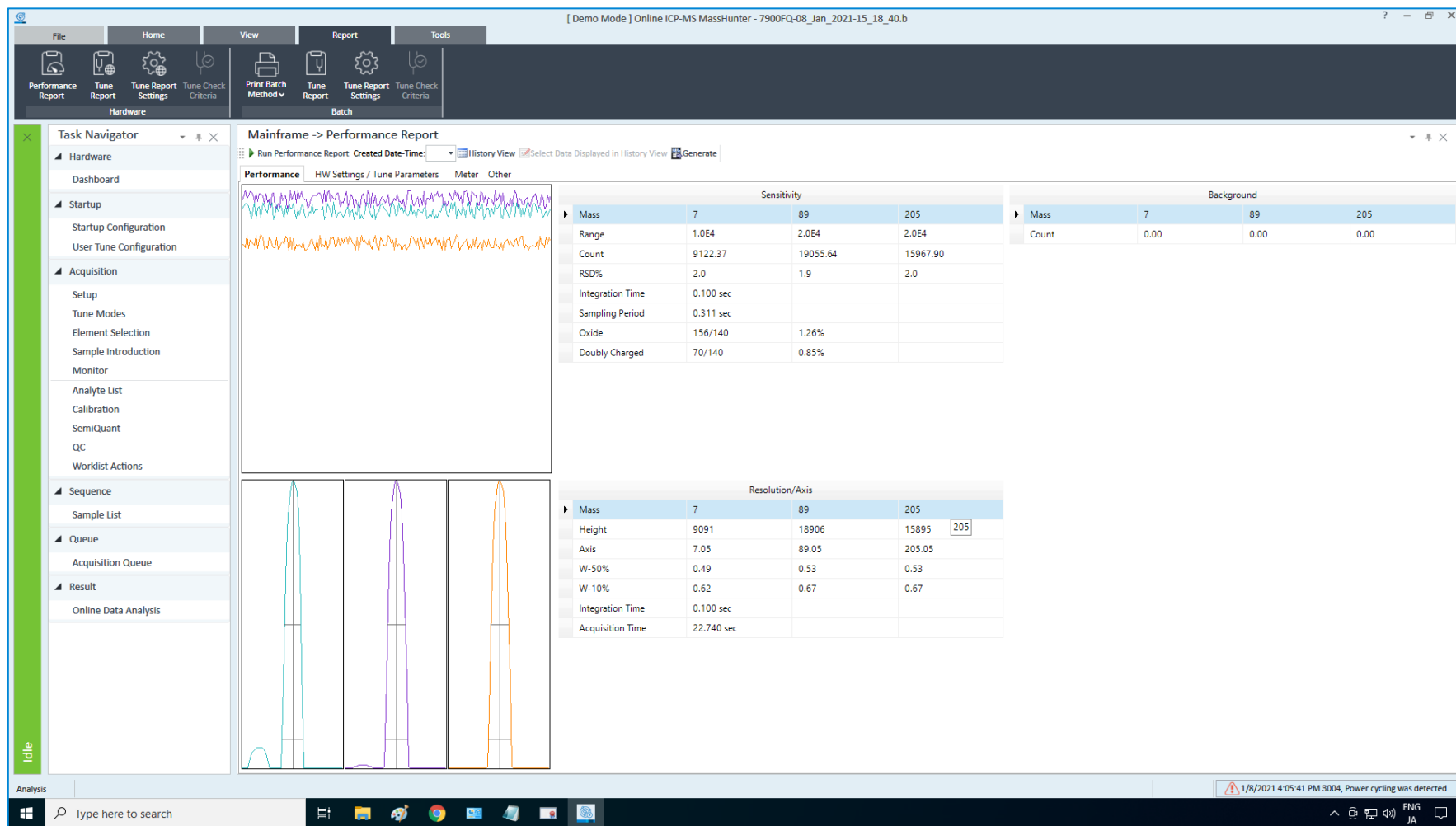
Approximate Video Time: 0:02:30

[Play the Video](#)

Performance Report

- Normally, the Performance Report runs at Startup
- You can monitor the status of the device status successively by executing this every time using the same conditions
- Ribbon > [Report] tab > [Performance Report]

Performance Report



Others

- [History View]
- [Select Data Displayed in History View]
- [Export] (Context Menu)
- [Clear Performance Report History]





1.5

Creating a Batch

Std. Familiarization Time: 0:10:00

Approximate Video Time: 0:06:30

[Play the Video](#)

Batch

The following items are stored in a single batch folder

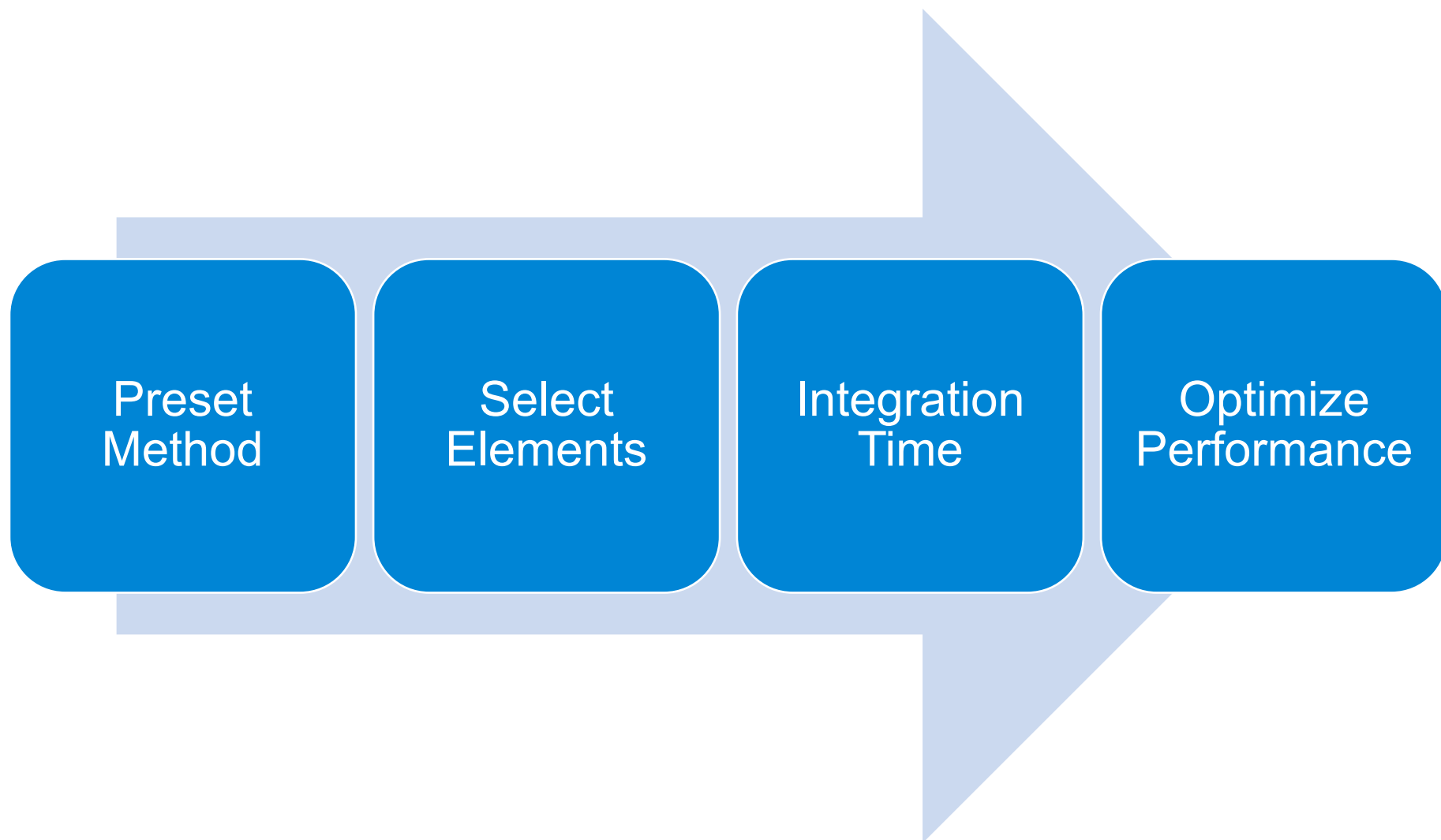
- Acquisition method (including tuning)
- Data analysis method
- Sample list

Methods for creating a batch

- [Method Wizard]
- [Preset Method]
- [Existing Batch]
- [Blank Template]



Method Wizard



Others

- [File] tab > [Save As Batch Template]
- [Home] tab > [Batch] group > [Create From Template]
- Select the pin of a recent batch template
(This feature has been removed in MassHunter 5.1)
- Support for long file names
- Characters cannot be used for folder or file names



1.6

Setting up a Batch (1/3) – Acquisition Method

Std. Familiarization Time: 0:15:00

Approximate Video Time: 0:13:30

[Play the Video](#)

Acquisition Parameters (1/2)

- Delete unnecessary tune modes before
- [Select Elements]
- Check the interference correction equations
- [Acq Mode]
- [Peak Pattern]
- [Replicates]

Acquisition Parameters (2/2)

- [Sweeps/Replicate]
- [IntegTime/Mass]
- [Auto/Semi Auto Tune before Batch]
- [Print Tune Report]
- [P/A Factor Adjustment]



PeriPump/ISIS

- [PreRun]
 - [Sample Uptake] – [Time]
 - [Sample Uptake] – [Speed]
 - [Stabilize] – [Time]
- [PostRun]
 - [Probe Rinse (Sample)] – [Time]
 - [Probe Rinse (Std)] – [Time]
 - [Probe Rinse] – [Speed]
 - [Rinse 1(/2/3)] – [Time]
 - [Probe Rinse 1(/2/3)] – [Time]
- [Preemptive Rinse]



Tune

- [Plasma Mode]
- [Configure Tune Way]
 - [Auto Tune]
 - [Custom Tune]
 - [Signal Monitor]
- [Tune Report]
 - [Report Template]





1.7

Setting up a Batch (2/3) – Data Analysis Method

Std. Familiarization Time: 0:10:00

Approximate Video Time: 0:06:30

[Play the Video](#)

Startup

- [Data Analysis Method]
 - [FullQuant Analysis]
 - [SemiQuant Analysis]
 - [Analysis Mode]

Analyte List

- [Delete]
- [Load List from Acquisition Method]
- Set elements for [ISTD]

Calibration (1/3)

- [Curve Fit]
- [Origin]
- [ISTD]
- [Units]
- [Level]

Calibration (2/3)

- [Conc Multiply]
- [Add Levels]
- [Advanced Info] (In MassHunter 5.1, perform operations from Task Navigator)
 - [FullQuant Outlier]
 - [Worklist Actions]



Calibration (3/3)

[Demo Mode] Online ICP-MS MassHunter - 7900FQ-08_Jan_2021-15_18_40.b

File Home View Report Tools

Nebulizer Pump Speed Autosampler Plasma Configuration Skip Warming up Set as Global Tune New Open Create From Template Save As Add to Queue Advanced Option Resume Pause Stop

Sample Handling Startup Batch Acquisition Queue

Task Navigator

- Hardware
 - Dashboard
- Startup
 - Startup Configuration
 - User Tune Configuration
- Acquisition
 - Setup
 - Tune Modes
 - Element Selection
 - Sample Introduction
 - Monitor
 - Analyte List
 - Calibration
 - SemiQuant
 - QC
 - Worklist Actions
- Sequence
 - Sample List
- Queue
 - Acquisition Queue
- Result
 - Online Data Analysis

Batch - 7900FQ-08_Jan_2021-15_18_40.b

Validate Method DA Method Task:

Basic Calibration Parameters

Calibration Title	Calibration Method	Edit ISTD Conc	Weighting	Virtual ISTD Correction
External Calibration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Tune Mode	Mass	Name	Curve Fit	Origin	ISTD	Min Conc.	Units	Outlier	Level 1	Level 2	Level 3	Level 4	Level 5	QC1	QC2	QC3	QC4	QC5	BlkVrfy	Spike1	Spike2	Spike3
1: No Gas	9	Be	Linear	Blank offset	6	<None>	ppb	<input checked="" type="checkbox"/>	0	1	10	50	100									
2: He	23	Na	Linear	Blank offset	45	<None>	ppb	<input checked="" type="checkbox"/>	0	100	1000	5000	10000									
2: He	24	Mg	Linear	Blank offset							1000	5000	10000									
2: He	27	Al	Linear	Blank offset							10	50	100									
2: He	39	K	Linear	Blank offset							1000	5000	10000									
2: He	44	Ca	Linear	Blank offset							1000	5000	10000									
2: He	51	V	Linear	Blank offset							10	50	100									
2: He	52	Cr	Linear	Blank offset							10	50	100									
2: He	55	Mn	Linear	Blank offset							10	50	100									
2: He	56	Fe	Linear	Blank offset							1000	5000	10000									
2: He	59	Co	Linear	Blank offset	115	<None>	ppb	<input checked="" type="checkbox"/>	0	1	10	50	100									
2: He	60	Ni	Linear	Blank offset	115	<None>	ppb	<input checked="" type="checkbox"/>	0	1	10	50	100									
2: He	63	Cu	Linear	Blank offset	115	<None>	ppb	<input checked="" type="checkbox"/>	0	1	10	50	100									
2: He	66	Zn	Linear	Blank offset	115	<None>	ppb	<input checked="" type="checkbox"/>	0	1	10	50	100									
2: He	75	As	Linear	Blank offset	72	<None>	ppb	<input checked="" type="checkbox"/>	0	1	10	50	100									

Multiply Conc

Level

Level 1 Level 2 Level 3 Level 4 Level 5

0 0.1 1 5 10

1000 5000 10000

OK Cancel

ISTD

Tune Mode	Mass	Name	Units	Outlier
1: No Gas	6	Li		<input checked="" type="checkbox"/>
1: No Gas	7	Li		<input checked="" type="checkbox"/>
1: No Gas	45	Sc		<input checked="" type="checkbox"/>
2: He	45	Sc		<input checked="" type="checkbox"/>
2: He	72	Ge		<input checked="" type="checkbox"/>
2: He	103	Rh		<input checked="" type="checkbox"/>
2: He	115	In		<input checked="" type="checkbox"/>

Analysis

1/8/2021 4:05:41 PM 3004, Power cycling was detected.

ENG JA



1.8

Setting up a Batch (3/3) – Sample List

Std. Familiarization Time: 0:05:00

Approximate Video Time: 0:03:30

[Play the Video](#)

Sample List

- [Sample Type] (required)
- [Sample Name] (required)
- [Vial#]
- [Level]

- [Use Block List]

- [Validate Method]



Sample List

[Demo Mode] Online ICP-MS MassHunter - 7900FQ-08_Jan_2021-15_18_40.b

File Home View Report Tools

Nebulizer Pump Speed Autosampler Plasma Configuration Skip Warming up Set as Global Tune New Open Create From Template Save As Add to Queue Advanced Option Resume Pause Stop

Sample Handling Startup Batch Acquisition Queue

Task Navigator

- Hardware
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- Result
 - Online Data Analysis

Batch - 7900FQ-08_Jan_2021-15_18_40.b

Validate Method Use Block List Import Sample List

Estimated Time for Batch Acquisition: 1667.870 sec

	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1	<input type="checkbox"/>	Sample	Blank		1101				
2	<input type="checkbox"/>	CalBlk	Std 1		1102			Level 1	
3	<input type="checkbox"/>	CalStd	Std 2		1103			Level 2	
4	<input type="checkbox"/>	CalStd	Std 3		1104			Level 3	
5	<input type="checkbox"/>	CalStd	Std 4		1105			Level 4	
6	<input type="checkbox"/>	CalStd	Std 5		1106			Level 5	
7	<input type="checkbox"/>	Sample	Blank		1201				
8	<input type="checkbox"/>	Sample	Sample 1		1301				
9	<input type="checkbox"/>	Sample	Sample 2		1302				
10	<input type="checkbox"/>	Sample	Sample 3		1303				
11	<input type="checkbox"/>	Sample	Sample 4		1304				
12	<input type="checkbox"/>	Sample	Sample 5		1305				
13	<input type="checkbox"/>	Sample	Sample 1		1301				
14	<input type="checkbox"/>	Sample	Sample 2		1302				
15	<input type="checkbox"/>	Sample	Sample 3		1303				
16	<input type="checkbox"/>	Sample	Sample 4		1304				
17	<input type="checkbox"/>	Sample	Sample 5		1305				
18	<input checked="" type="checkbox"/>								
19	<input checked="" type="checkbox"/>								
20	<input checked="" type="checkbox"/>								
21	<input checked="" type="checkbox"/>								
22	<input checked="" type="checkbox"/>								
23	<input checked="" type="checkbox"/>								
24	<input checked="" type="checkbox"/>								
25	<input checked="" type="checkbox"/>								
26	<input checked="" type="checkbox"/>								
27	<input checked="" type="checkbox"/>								
28	<input checked="" type="checkbox"/>								

Analysis

1/8/2021 4:05:41 PM 3004, Power cycling was detected.

ENG JA



1.9

Tune Overview

Std. Familiarization Time: 0:10:00

Approximate Video Time: 0:06:30

[Play the Video](#)

Tune

Tune

- Optimizing instrument performance for a specific analysis

Types of Tune

- [Auto Tune]
- [Custom Tune]
- [Signal Monitor]



Auto Tune

- Usually, select [Auto Tune]
- When auto tune is complete, the result is saved in the batch
- Performing a Startup optimizes the hardware setting parameters; these provide the instrument's basic performance settings. In addition, performing an auto tune for each batch optimizes the parameters for the relevant acquisition
- [Auto Tune] cannot be selected for a batch that was created from a blank template



Custom Tune

- You can select each lens parameter to tune and then perform auto tune
- You can also adjust each tuning parameter manually by operating the slider or changing the value while you monitor the signal
- The result of manual tuning is saved in the batch

Signal Monitor

- You can monitor the signals
- While each tuning parameter can be changed, they are not save in the batch

Differences between Startup and Auto Tune

- Startup consists of some hardware settings and lens tune
- The purpose of Startup is to monitor the instrument status in a specific condition
- The Performance Report for Startup is important to monitor trends in instrument performance

Relationship between Hardware Settings and Auto Tune parameters

- Some hardware settings that were optimized in Startup will be also used in data acquisition
- When you use a preset method, Tune parameters for Auto Tune are acquired from the preset method. The optimized tune parameters are saved in the batch
- The standard lens tune parameters in Startup are not used for Auto Tune

Others

- Creating a tune report
- Tune in batch acquisition
- Vial settings when running tune
- For detailed custom tune operations and other special tunes, refer to “2.1 Custom Tune and Other Tunes” video



1.10

Running a Batch

Std. Familiarization Time: 0:05:00

Approximate Video Time: 0:02:30

[Play the Video](#)

Running a Batch

- [Validate Method]
- [Save Batch]
- [Add to Queue]
- Status bar

Acquisition Queue

The screenshot displays the Agilent MassHunter software interface in Demo Mode. The main window is titled "[Demo Mode] Online ICP-MS MassHunter - 7900FQ-10_Jan_2021-10_27_32.b". The interface is divided into several sections:

- Task Navigator:** A sidebar on the left with a tree view showing the workflow: Hardware (Dashboard), Startup (Startup Configuration, User Tune Configuration), Acquisition (Setup, Tune Modes, Element Selection, Sample Introduction, Monitor, Worklist Actions), Sequence (Sample List), Queue (Acquisition Queue), and Result (Online Data Analysis).
- Acquisition Queue:** A table showing the current acquisition task. It includes columns for Task Name, Status, Start Time, End Time, Start Line, Current Line, End Line, and Error Message. The task "7900FQ-10_Jan_2021-10_27_32" is in "In Process" status.
- Sample List:** A table showing the list of samples to be acquired. It includes columns for Skip, Sample Type, Sample Name, Comment, and Vial#. The list includes a Blank sample and several Standard (Std) samples.
- Real Time Display:** A graph showing the acquisition progress. The Y-axis is labeled "Count" and ranges from 0 to 1.0. The X-axis is labeled "Time" and ranges from 0 to 50. A small window titled "Configure Acq Status Bar" is open, showing options to display various acquisition metrics.

The bottom status bar shows the current acquisition parameters: Tune Mode Name: He, Replicate: 1 / 3, Elapsed Time(Total): 44 / 1668 sec, and a warning message: "1/10/2021 10:24:40 AM 3004, Power cycling was detected."



1.11

Editing a Batch in Queue

Std. Familiarization Time: 0:05:00

Approximate Video Time: 0:04:00

[Play the Video](#)

Queue

- Ribbon > [Home] tab > [Batch] group > [Add to Queue]
- [Skip Warm-up]
- [Plasma Off at End]
- [Vial# at End]

Adding or deleting a sample during acquisition

- Select the first empty line in the [Sample List] pane from the Acquisition Queue
- Click [Start Sample List Editing Mode]
- Add/delete samples
- Click [Exit Sample Editing Mode]

Others

- Reacquiring the previous batch
- Editing an acquired batch and acquire it again





1.12

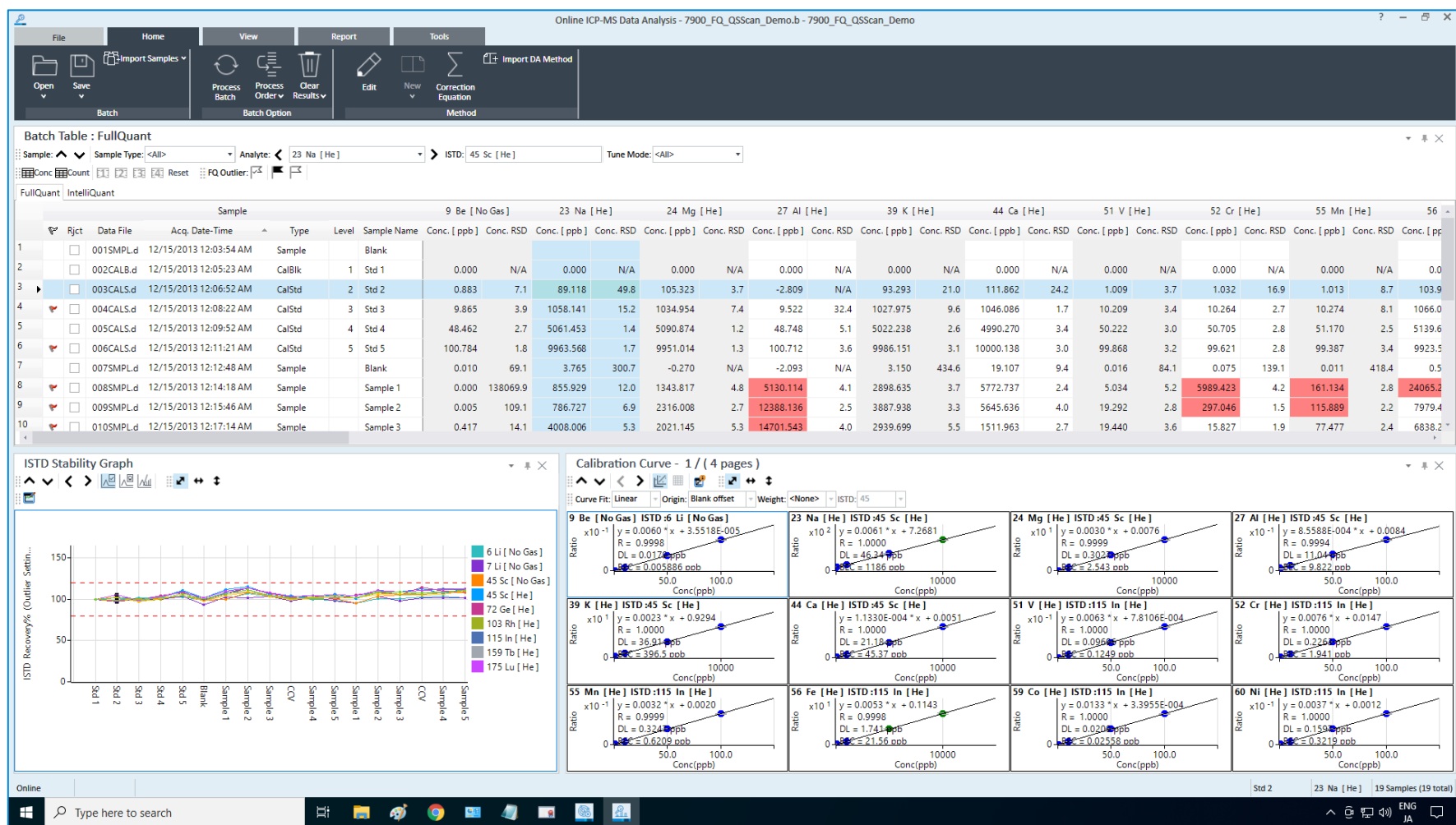
Data Analysis Overview

Std. Familiarization Time: 0:15:00

Approximate Video Time: 0:12:00

[Play the Video](#)

Batch-at-a-Glance



Batch-at-a-Glance

- [Process Batch]
- [Specify Process Order]
- [Conc] and [Count] modes
- Showing replicate data – [Detail]
- [User Columns Settings]
- [Number Configuration]
- [FullQuant Outliers]



Spectrum Pane

- ISTD Stability Graph
- QC Sample Stability Graph
- Spectrum/Chromatogram
- Adjusting the scale – right-click and drag the mouse
- Shifting the axes – left-click and drag the mouse
- Expanding a selected area – right-click and drag the mouse

Calibration Curve Pane

- Single Calibration Curve
- Twelve Calibration Curve
- [Next Element] and [Previous Element]

Method Editor

Online ICP-MS Data Analysis - (Method Editor) - 7900_FQ_QSScan_Demo

File Home View Report Tools

Open Save Import Samples Process Batch Process Order Clear Results Edit New Correction Equation Import DA Method

Batch Batch Option Method

Method Development Tasks

- Set up Basic Information
- Data Analysis Method**
- Set up Analyte
 - Analyte List
- Set up Analysis Parameters
 - Calibration
 - SemiQuant
- Advanced Info
 - QC Setup
 - Worklist Actions
- Validate/Return
 - Validate
 - Return to Batch-at-a-Glance

Method Table: Data Analysis Method

DA Method Task: ^ v

Data Analysis Method	Sample Template	Batch Template
FullQuant Analysis		
Intelligent Sequence		
SemiQuant Analysis		
Isotope Ratio Analysis		
Isotope Dilution Analysis		
Analysis Mode	Spectrum	
Bkg Subtraction if Exists	Ratio to ISTD Subtraction	
Interference Correction	Acq. Defined	

29 Analytes - 11 ISTD

ENG JA



1.13

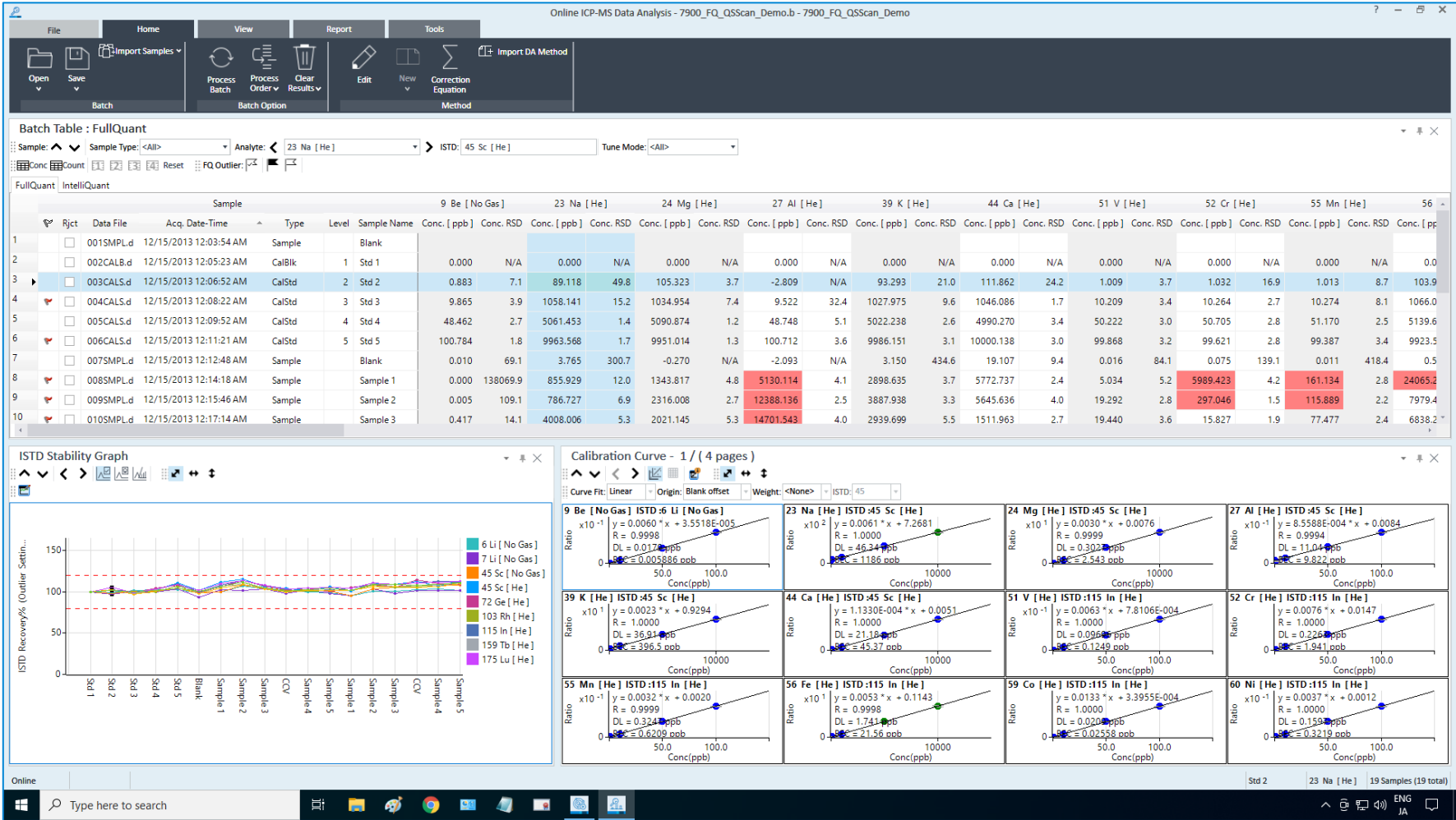
Quantitative

Std. Familiarization Time: 0:15:00

Approximate Video Time: 0:11:00

[Play the Video](#)

Batch-at-a-Glance



Calibration Curve Pane (1/2)

- Single Calibration Curve and Twelve Calibration Curve
- Color of the calibration curve level point
- How to ignore a calibration curve level
- How to change the calibration curve type
- Changing the origin of the calibration curve
- Changing the weighting of the calibration curve

Calibration Curve Pane (2/2)

- Changing the ISTD of the calibration curve
- Changing the calibration curve level
- Printing calibration curve data
- Exporting the table in the batch table pane
- Exporting graphics



1.14 Report

Std. Familiarization Time: 0:05:00

Approximate Video Time: 0:02:30

[Play the Video](#)

Report

- [Generate Report]
- [Sample Report]
- Types of report template files
- Types of exportable data



1.15

Maintenance and EMF

Std. Familiarization Time: 0:10:00

Approximate Video Time: 0:06:00

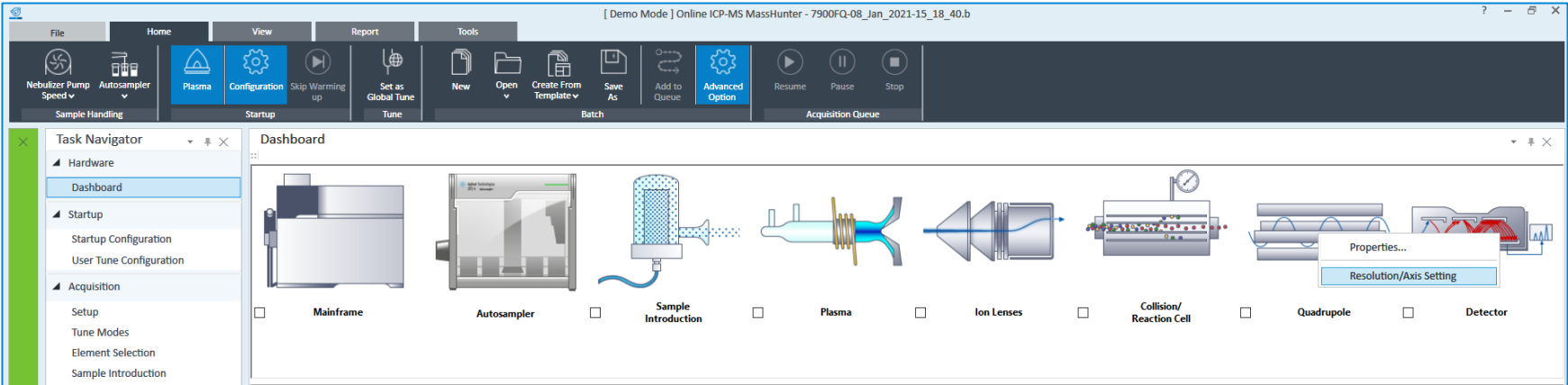
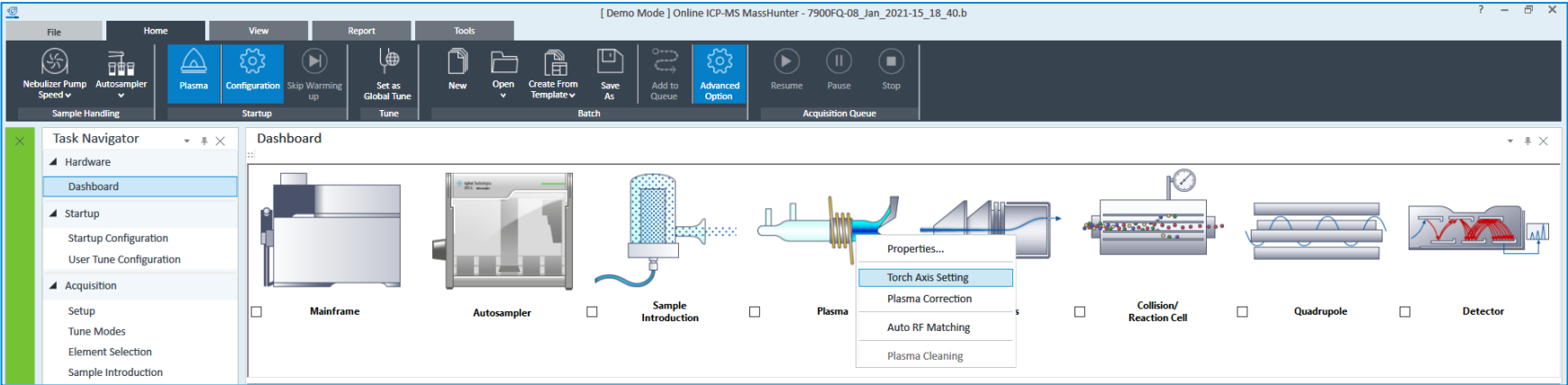
[Play the Video](#)

Maintenance

- Click icons in the Dashboard pane
- You can perform maintenance items from the maintenance menu



Maintenance



Early Maintenance Feedback

The screenshot displays the Agilent MassHunter software interface in Demo Mode. The top menu bar includes File, Home, View, Report, and Tools. The Home tab is active, showing icons for Sample Handling (Nebulizer Pump Speed, Autosampler), Startup (Plasma, Configuration, Skip Warming up), Tune (Set as Global Tune), Batch (New, Open, Create From Template, Save As, Add to Queue), and Acquisition Queue (Advanced Option, Resume, Pause, Stop).

The Task Navigator on the left lists the following sections:

- Hardware
 - Dashboard
- Startup
 - Startup Configuration
 - User Tune Configuration
- Acquisition
 - Setup
 - Tune Modes
 - Element Selection
 - Sample Introduction
 - Monitor
 - Worklist Actions
- Sequence
 - Sample List
- Queue
 - Acquisition Queue
- Result
 - Online Data Analysis

The main Dashboard area shows a schematic of the instrument components: Mainframe, Autosampler, Sample Introduction, Plasma, Ion Lenses, Collision/Reaction Cell, Quadrupole, and Detector. Each component has a checkbox below it, all of which are currently unchecked.

The Early Maintenance Feedback section is located below the Dashboard. It contains two main panels: User Maintenance Counters and Instrument Counters.

User Maintenance Counters:

- Check Foreline Pump Oil:** Vacuum ON Days: 5/80. [Reset]
- Change Foreline Pump Oil:** Vacuum ON Days: 6/180. [Reset]
- Change Sample Uptake Tube:** Solutions Measured: 10/200. [Reset]
- Clean Sampling Cone:** Solutions Measured: 10/200. [Reset]
- Clean Skimmer Cone:** Solutions Measured: 10/200. [Reset]
- Change Oil Mist Filter:** Vacuum ON Days: 6/360. [Reset]

Instrument Counters:

- Power ON Days: 21
- Plasma ON Days: 21
- Foreline Pump Days: 21
- Turbo Pump Days: 21
- Solutions Measured: 10

The status bar at the bottom indicates the system is in "Idle" state. A notification on the right states: "1/8/2021 4:05:41 PM 3004, Power cycling was detected."

Set Early Maintenance Feedback

The screenshot displays the Agilent MassHunter software interface in 'Demo Mode'. The main window is titled '[Demo Mode] Online ICP-MS MassHunter - 7900FQ-08_Jan_2021-15_18_40.b'. The interface includes a top menu bar (File, Home, View, Report, Tools) and a toolbar with various icons for sample handling, startup, and acquisition. A Task Navigator on the left lists categories like Hardware, Startup, Acquisition, Sequence, Queue, and Result. The main area is divided into a Dashboard and a 'Set Early Maintenance Feedback' dialog box.

The 'Set Early Maintenance Feedback' dialog box is open, showing a table of maintenance checks. The 'Vacuum' tab is selected. The table has columns for Check, Title, Current Value, Limit Value, and Reset. The 'Unit: Days' is indicated at the top right of the table.

Check	Title	Current Value	Limit Value	Reset
<input checked="" type="checkbox"/>	Check Foreline Pump Oil	5	80	Reset
<input checked="" type="checkbox"/>	Change Foreline Pump Oil	6	180	Reset
<input checked="" type="checkbox"/>	Change Oil Mist Filter	6	360	Reset
<input type="checkbox"/>	User defined 1	6	0	Reset
<input type="checkbox"/>	User defined 2	7	0	Reset

Below the table, there are checkboxes for 'Pop up EMF: Plasma Ignition' and 'Queue End'. The 'OK' and 'Cancel' buttons are at the bottom right of the dialog box.

The background interface shows the 'Dashboard' with a 'Mainframe' section and an 'Early Maintenance Feedback' section. The 'Early Maintenance Feedback' section includes 'User Maintenance Counters' with progress bars for 'Check Foreline Pump Oil', 'Vacuum ON Days: 5/80', 'Clean Skimmer Cone', and 'Solutions Measured: 10/200'. The 'Instrument Counters' section on the right shows values for 'Power ON Days', 'Plasma ON Days', 'Foreline Pump Days', 'Turbo Pump Days', and 'Solutions Measured'.



1.16

A Typical Workflow of Routine Analysis

Std. Familiarization Time: 0:10:00

Approximate Video Time: 0:05:00

[Play the Video](#)

Turn On ICP-MS

Make sure
the exhaust
duct is on

Open the
valve and
adjust the
gas to the
appropriate
level

Turn on the
water flow

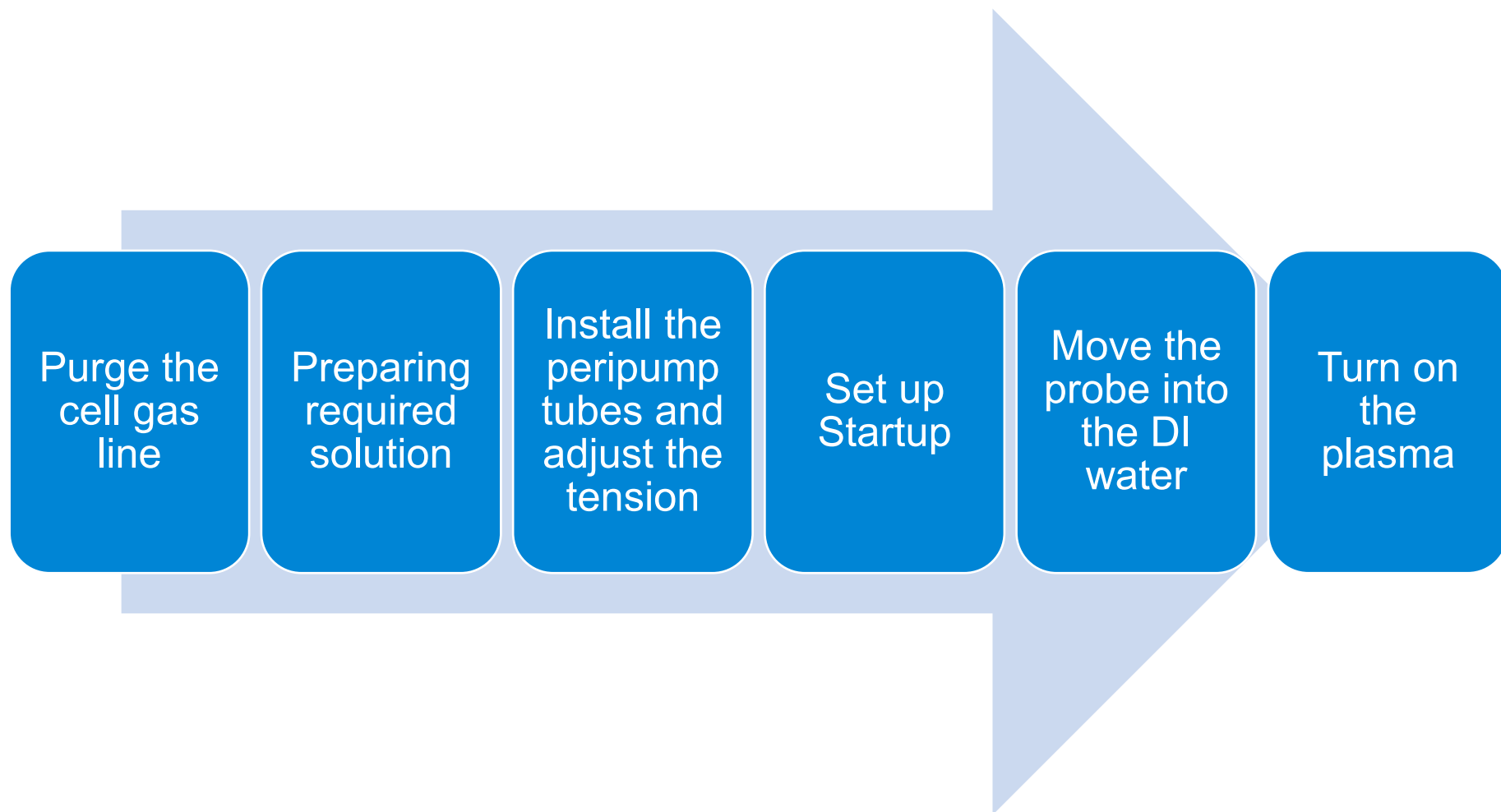
Turn on the
PC

Login to
Windows

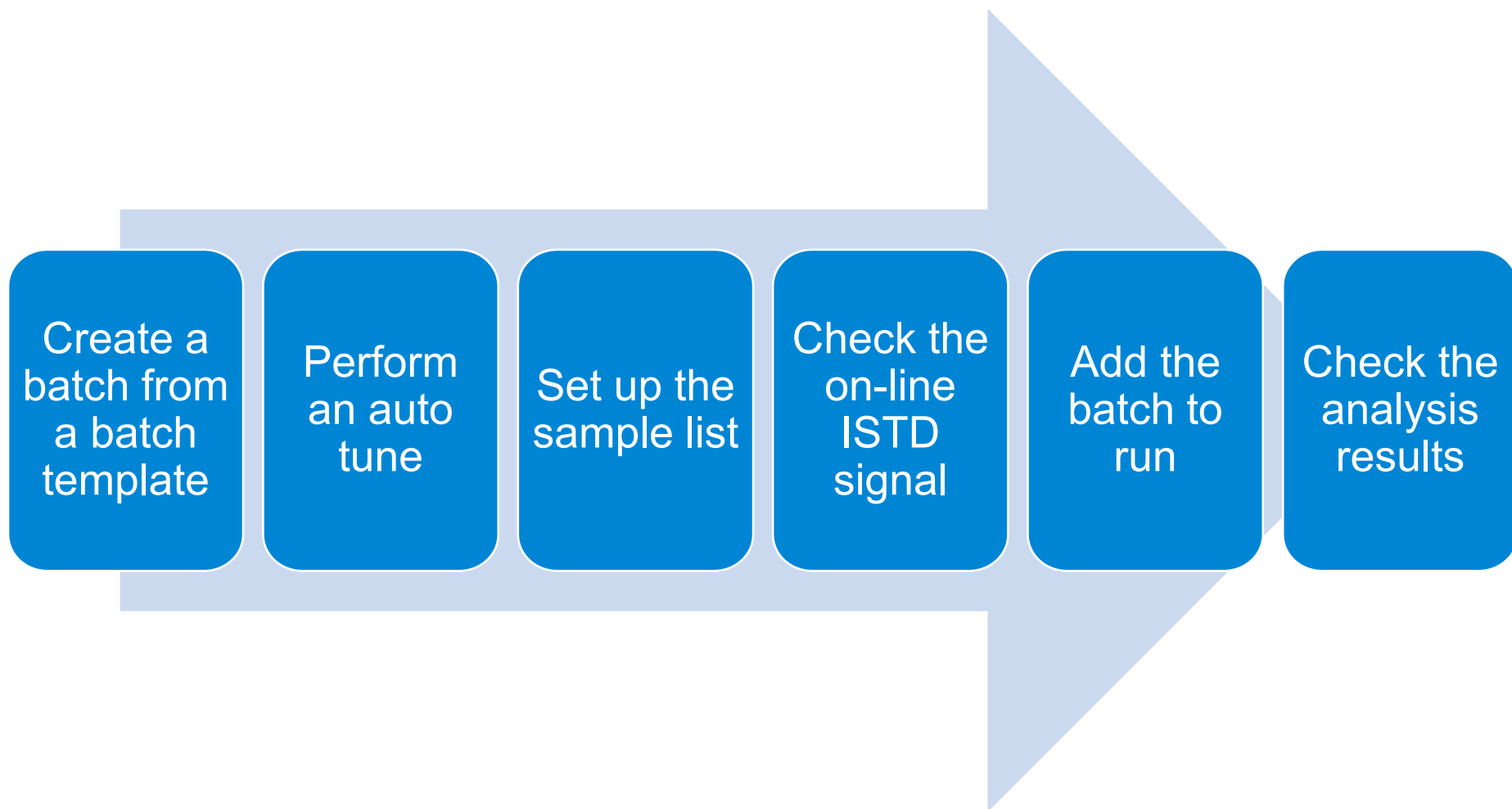
Start
MassHunter



Plasma On



Running a Batch



Plasma Off and Standby

Turn off the
plasma and
check
standby

Release the
peripump
tubes

Close the gas
valves

Stop the
coolant flow

Shutdown
MassHunter

Turn off the
PC

