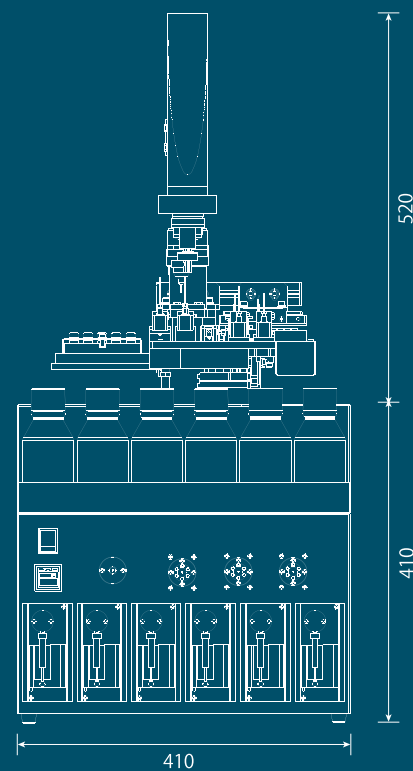


■ Dimensions (mm)



■ SPL-W100 specification

Size and weight	Main unit & Pumping unit: W 410 mm D 570 mm H 930 mm 57Kg
Supply and Power Consumption	100 V (500 VA)
Operating system	Windows7 or later
Number of specimens processed	Maximum 50 samples
Liquid delivery method	Syringe type
Gas	Nitrogen gas or inert gas
Installation environment	Temperature : 18~28 °C Humidity : 40~70 %RH However, no condensation must occur An environment with few disturbing elements such as dust, vibration, space noise, corrosive gases, etc. is desirable.

Product specifications, appearance, configuration and so on are subject to change without notice for improvement.
Company names and product names in this catalog are registered trademarks or trademarks of the respective companies.



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Online SPE-LC
interface

SPL-W100

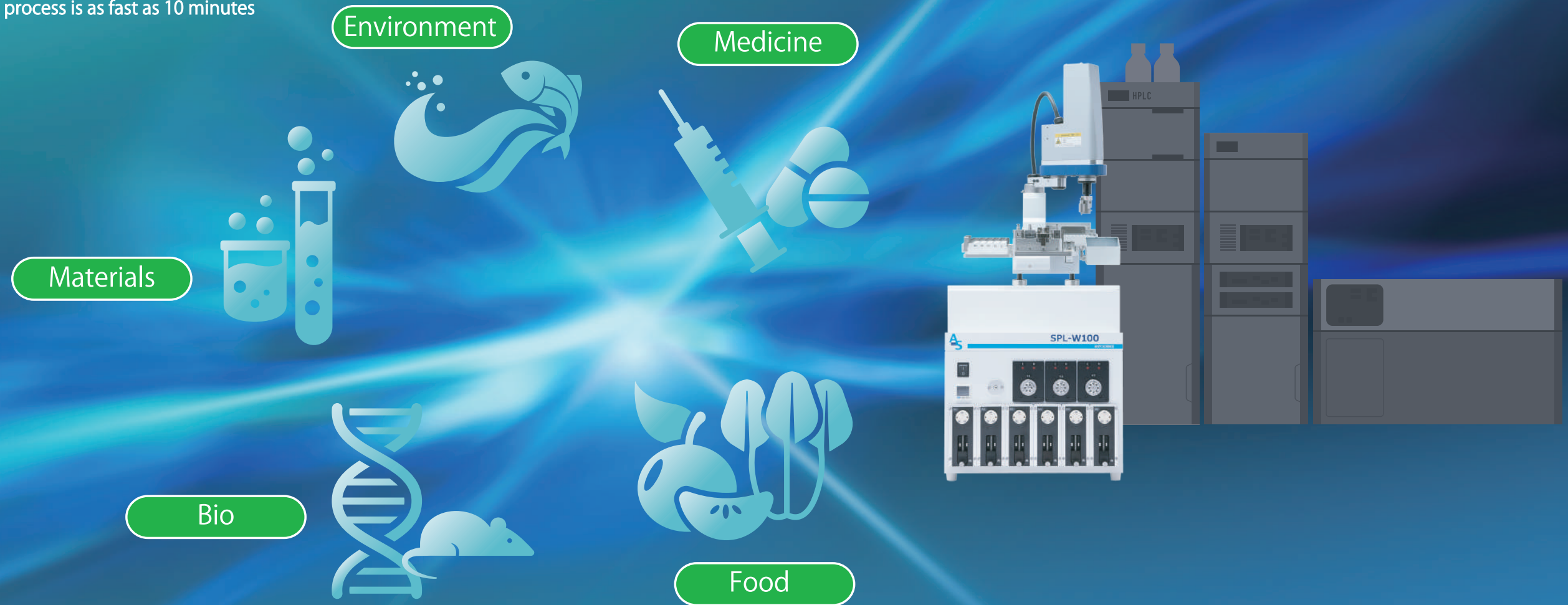


SPL-W100 / online SPE-LC interface

Fully online LC pretreatment in a variety of fields
Two new technologies bring out the best in LC performance
in a revolutionary pretreatment system



- Solid-phase extraction system mounted on LC for fully automated online analysis from SPE conditioning to sample loading, elution, and LC injection
- Combines the advantages of conventional offline pretreatment methods with online pretreatment methods
- Automatic pretreatment process is as fast as 10 minutes



Two new technologies for fully automated analysis



MiVS

Mixing Injection Valve System

(Patente pending)

- Mixing eluent and diluent in the valve while accumulating in the sample loop
- Introduces diluted eluate to LC column by switching flow paths
- pH adjusters and derivatization reagents can be added to the eluate from the solid phase



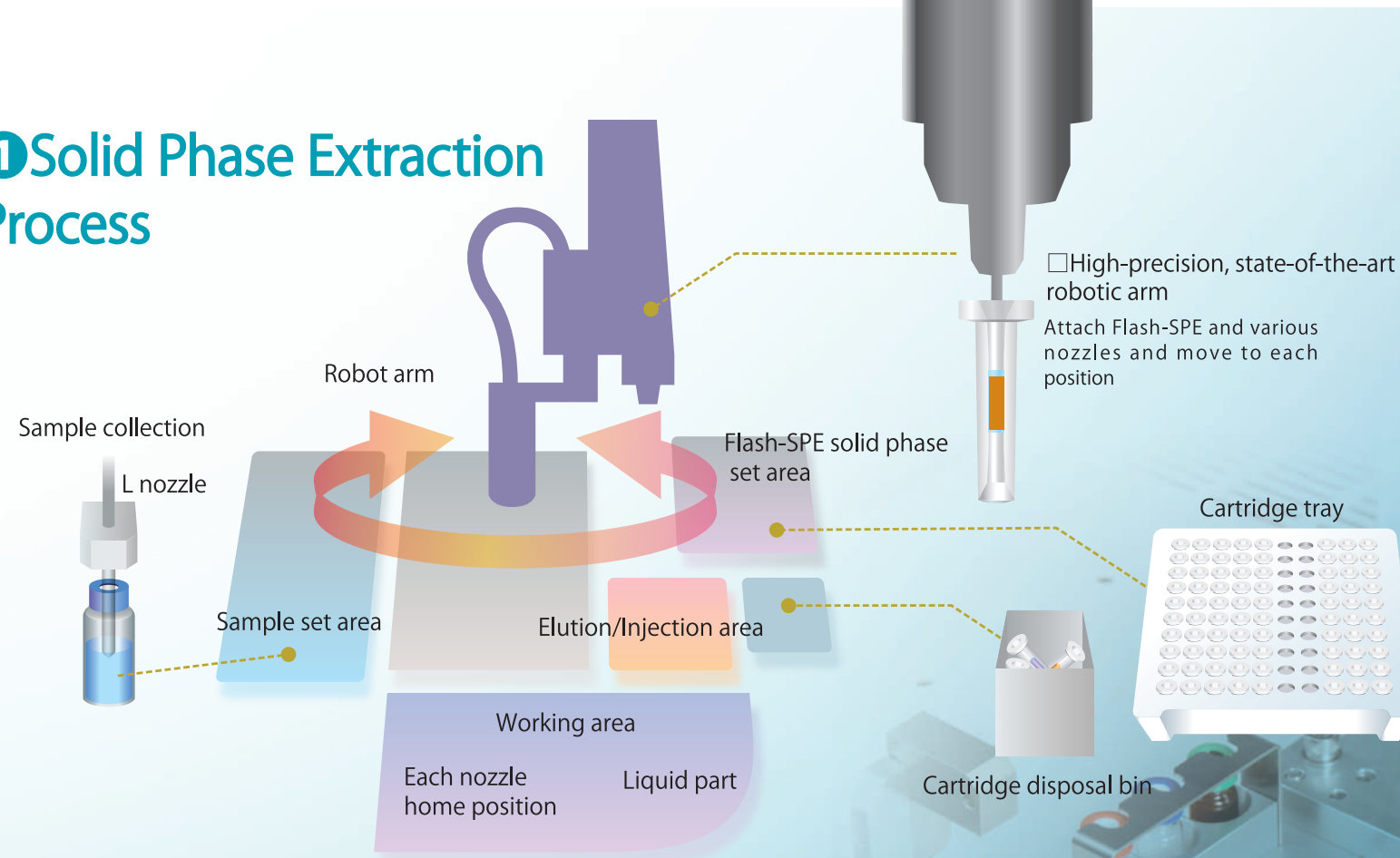
HYBRID SPE-LC

- Combines the respective offline and online benefits of traditional SPE-LC
- Offline advantages of not contaminating the valve when loading the sample into the solid phase
- Online advantages of introducing the entire eluate from the solid phase into the LC

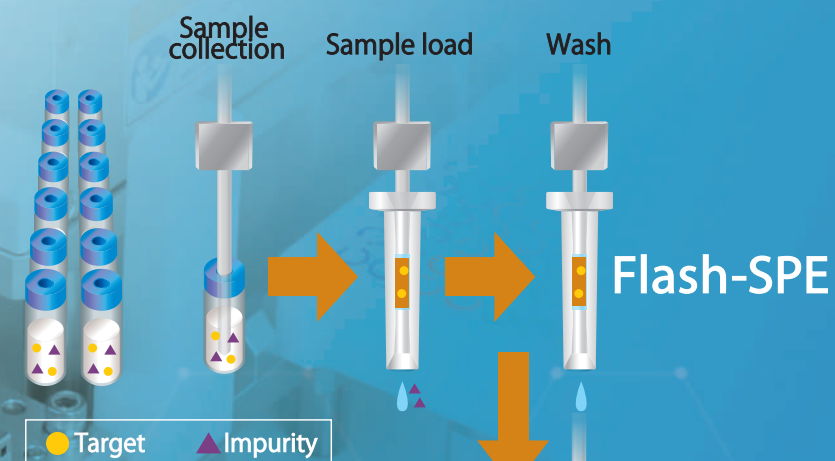


HYBRID ONLINE
SPE-LC

① Solid Phase Extraction Process



Scaled-down solid-phase extraction process, dramatically shortened processing time, and higher accuracy



Flash-SPE cartridge

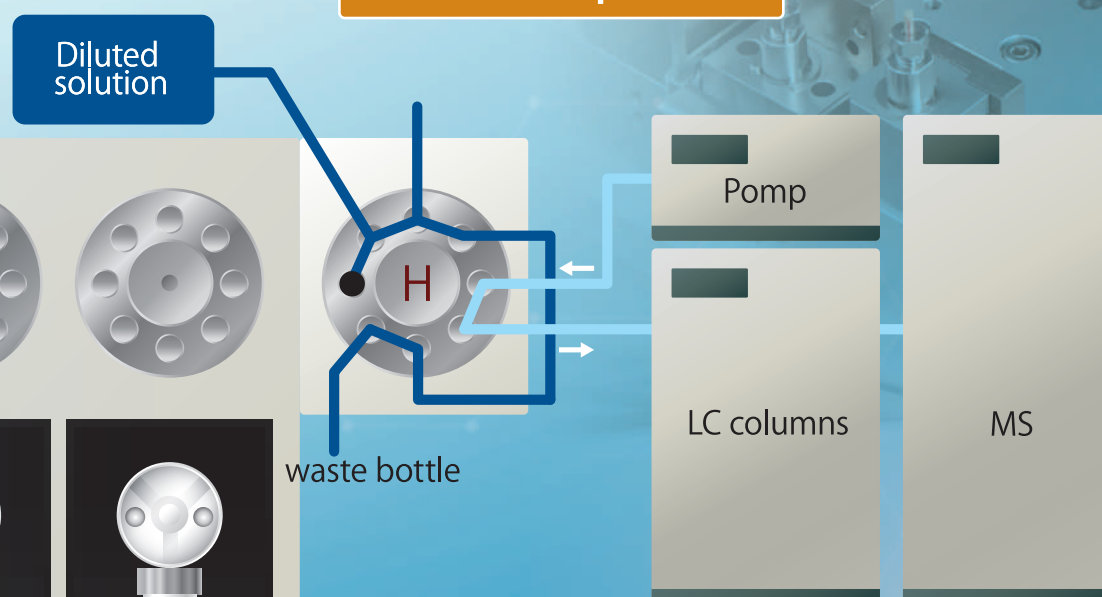


Flash-SPE

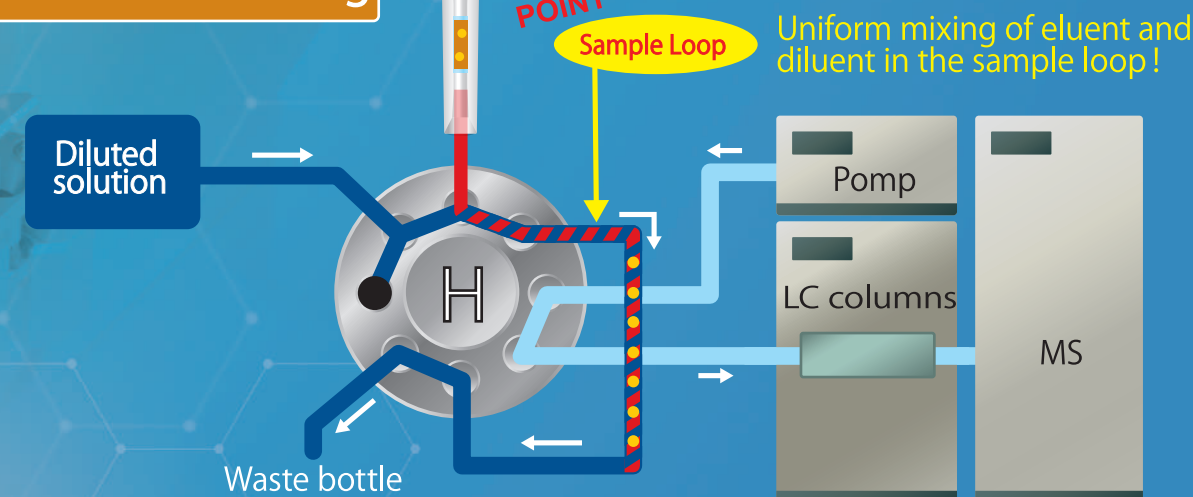
This solid-phase cartridge was developed specifically for online SPE-GC. With a very low filling volume of 2-5 mg, the compact design of Flash-SPE and the large volume injector LVI-S250 enable full sample volume injection

② Elution & Mixing

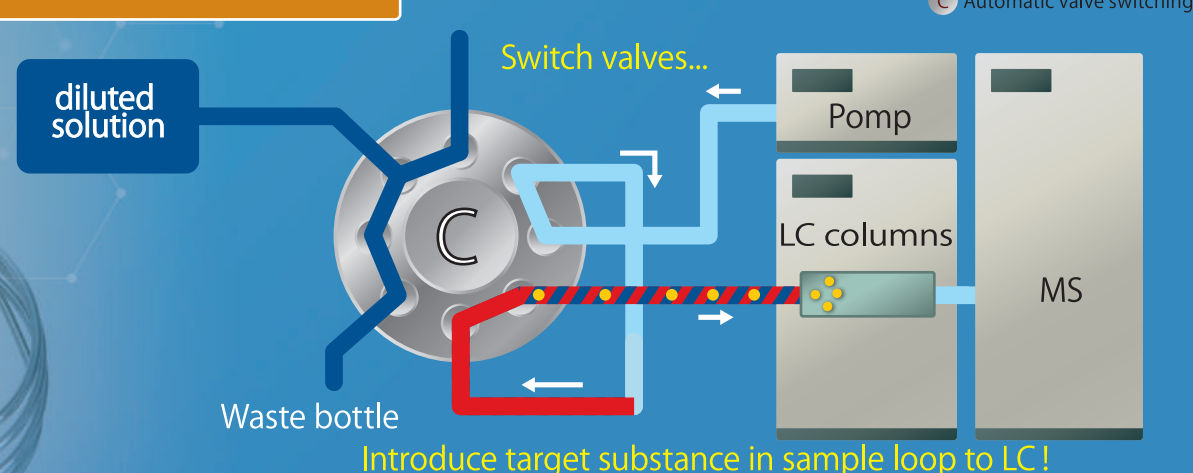
STEP ① Preparation



STEP ② Elution & Mixing



STEP ③ Introduce to LC

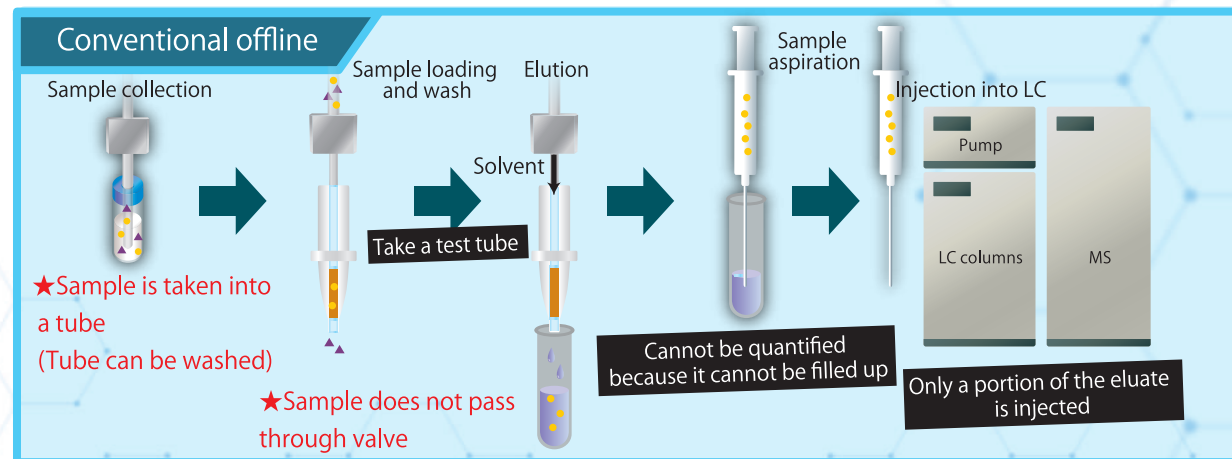


H Valve home position
C Automatic valve switching

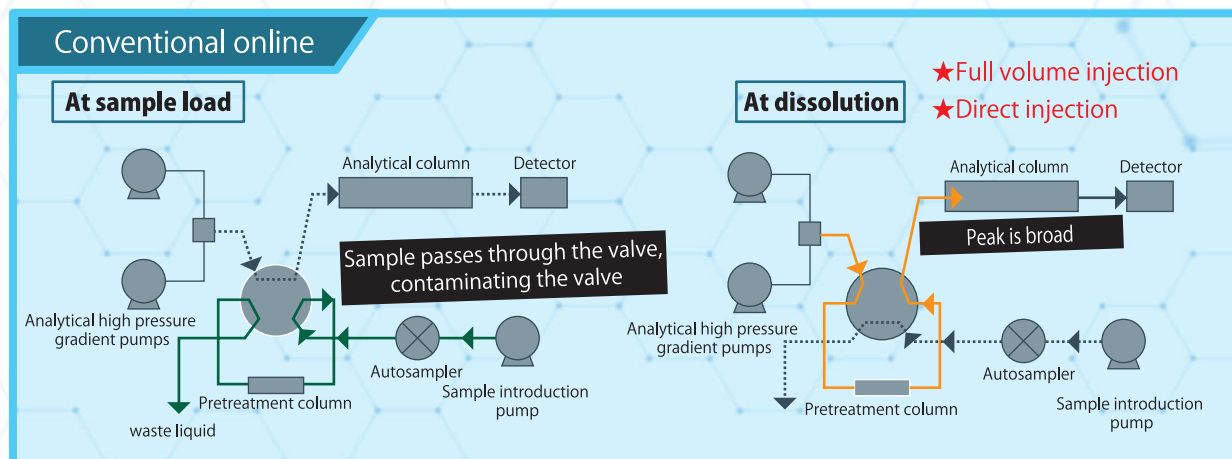
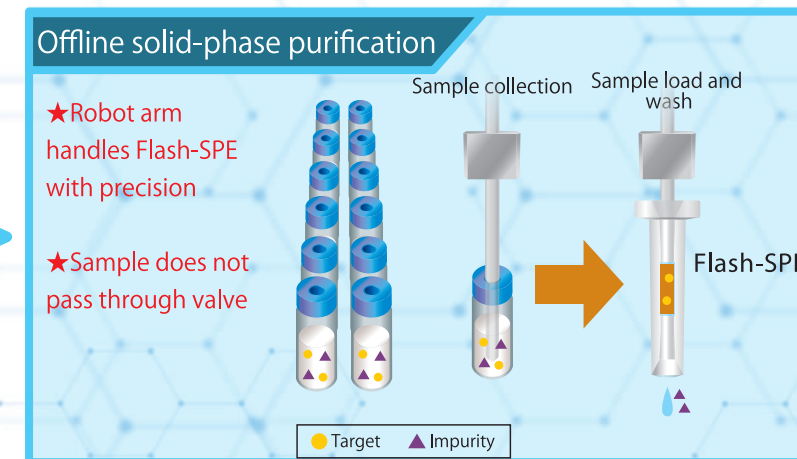


MiVS takes LC into new territory
Mixing Injection Valve System

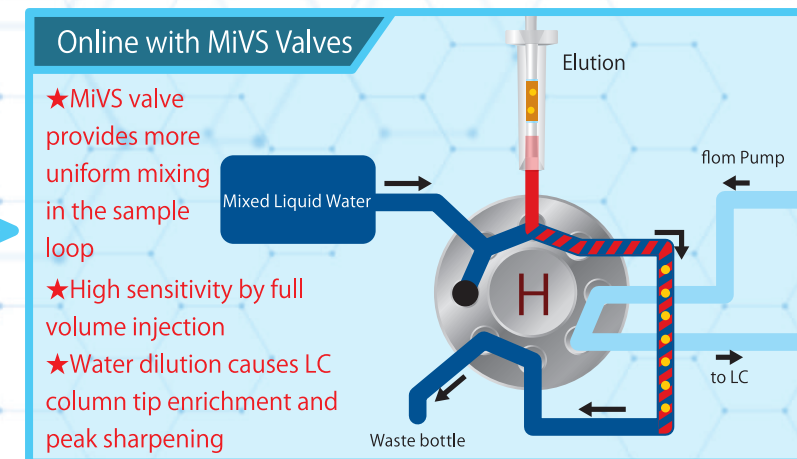
Hybrid Online SPE-LC Combines traditional offline/online benefits



Offline
Advantages



Online
Advantages

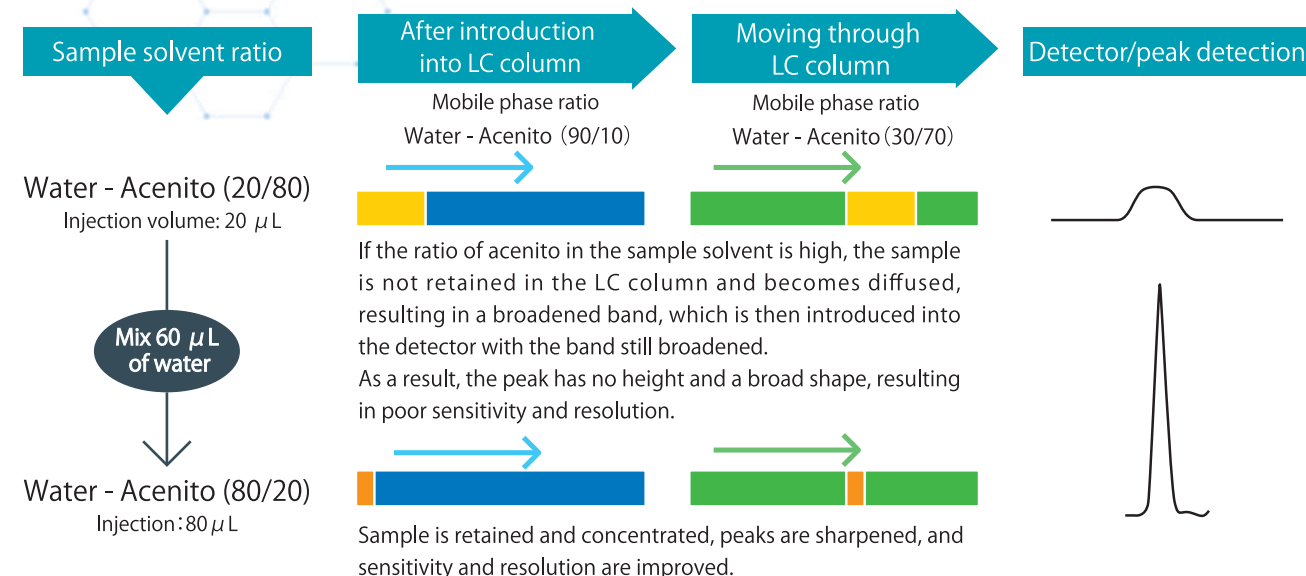


AiSTI TRI.SYSTEM

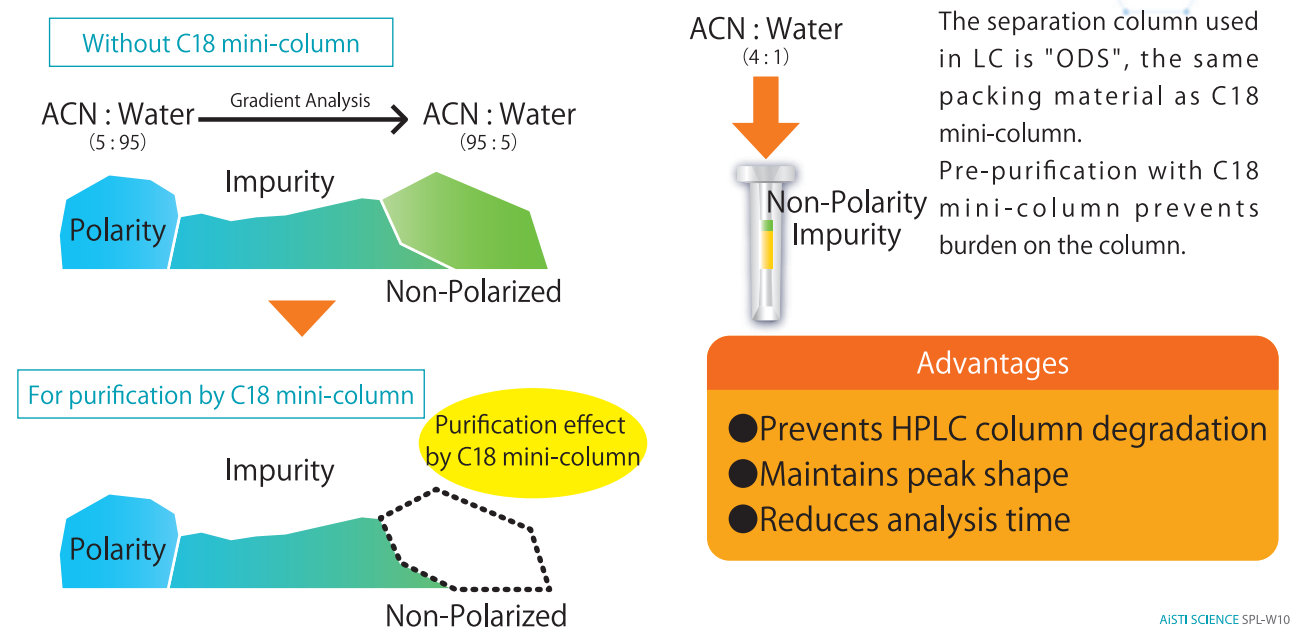
AiSTI Tri. System realizes speed, labor saving, cost reduction, and high accuracy of solid phase extraction process.

- Reduces the maintenance frequency for LC-MSMS.
- Fewer contaminants reduce the impact on LC-MSMS and maintain analytical accuracy
- HPLC column degradation is reduced and peak shape is maintained.
- MS can be less degraded
- The reduction of foreign substances reduces the effects of ionization inhibition and ionization acceleration. In trace analysis, increasing the amount of concentration (loading) in the solid phase enables highly sensitive analysis.
- Any foreign substances that increase with the concentration of the solid phase can be removed by washing the solid phase, etc.
- The time required for HPLC to remove foreign substances can be shortened, thereby reducing the measurement time.
- Analysis time can be shortened by eliminating the influence of foreign substances.
- Fewer impurities prevent false identifications.

Sharp peak shape due to LC column tip enrichment



C18 purification reduces burden on LC analytical columns



Neonicotinoid analysis in river water

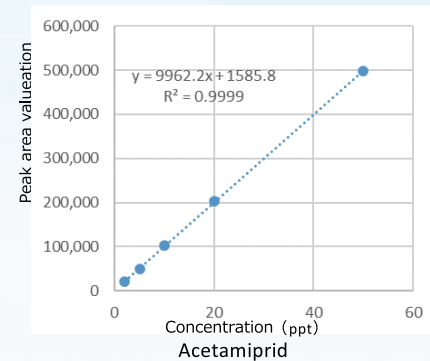
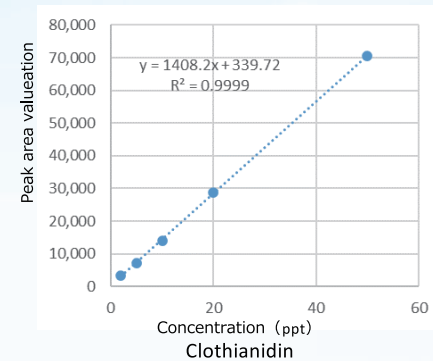
This system was used to analyze neonicotinoids in river water. 1 mL of the collected river water was placed in a vial and set in this system for measurement.

Filler: C18
Cleaning solution: 2% ACN-water
Dissolution solution: ACN-water (2/1)
Load: 200 μ L
Measurement device: LC-MSMS

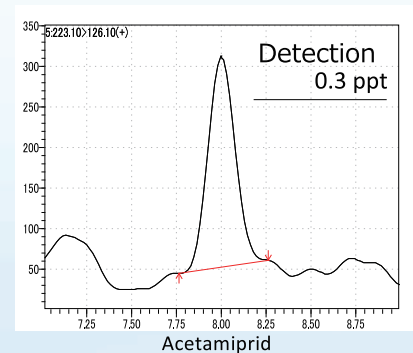
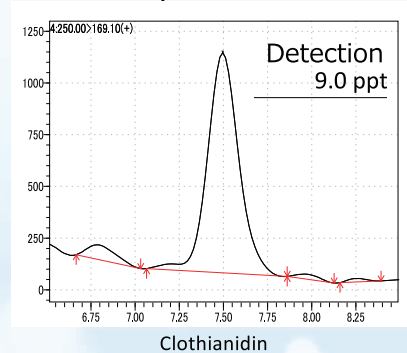
Spike and Recovery Test

NO.	Compound	River water, 10ppt added, peak area value						RSD %	Recovery %
		1	2	3	4	5	6		
1	Nitenpyram	114,371	108,447	100,857	102,730	109,253	105,747	106,901	4.6
2	Thiamethoxan	15,295	15,282	11,831	14,101	15,157	16,181	14,641	10.4
3	Imidacloprid	24,911	22,741	22,148	22,380	23,060	23,131	23,062	4.3
4	Clothianidin	33,644	36,114	33,552	33,385	35,224	32,348	34,045	4.0
5	Acetamiprid	109,719	99,658	104,738	107,115	105,946	102,750	104,988	3.3
6	Thiacloprid	128,199	133,633	133,158	130,063	131,737	125,731	130,420	2.3

Calibration curve



MRM quantitative ion chromatograms and quantitative values of detected pesticides

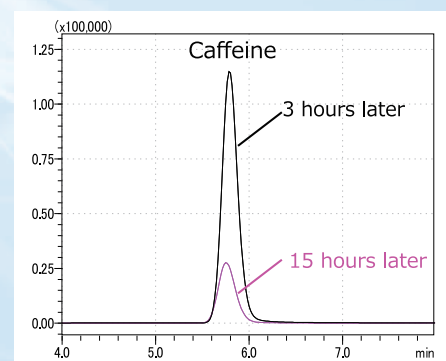


Urinary caffeine analysis

This system was used to analyze caffeine in urine after drinking coffee.

50 μ L of collected urine was added to a vial containing 950 μ L of water, set in this system, and measured.

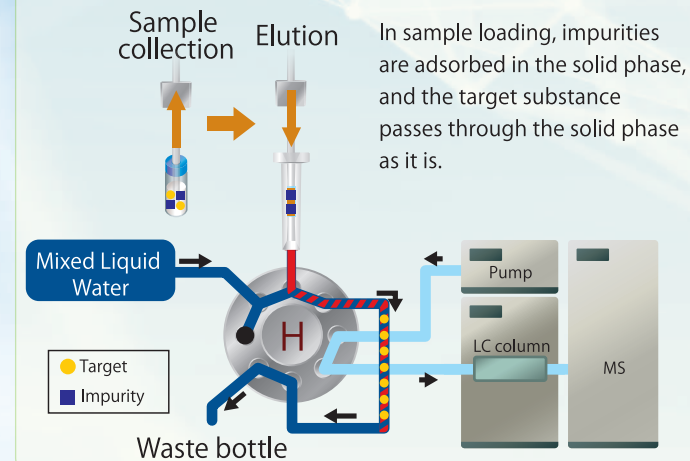
Filler: C18
Cleaning solution: 2% ACN-water
Dissolution Solution: ACN-water (1/1)



MRM quantitative ion chromatograms of urinary caffeine obtained with this system

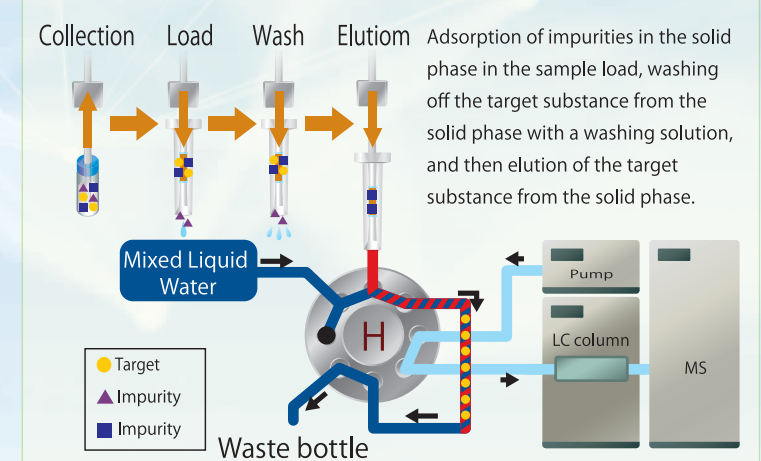
The SPL-W100 can be applied to a variety of uses!

Purification

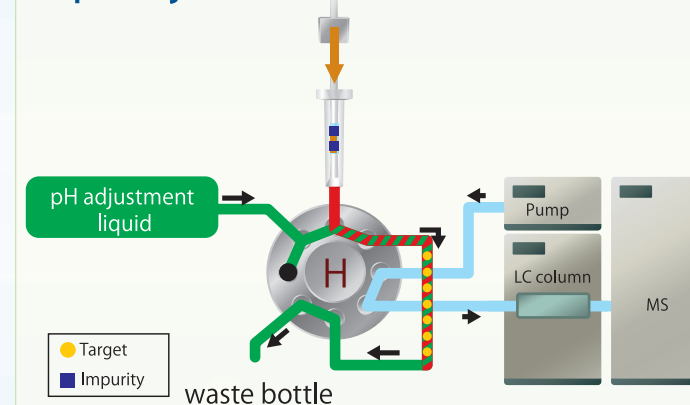


Analysis

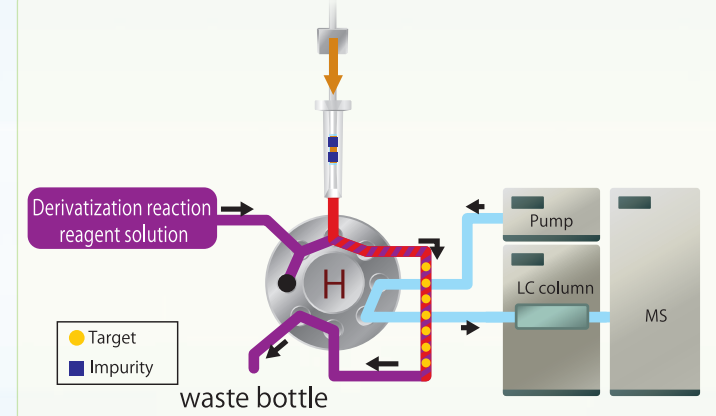
Retention + Purification



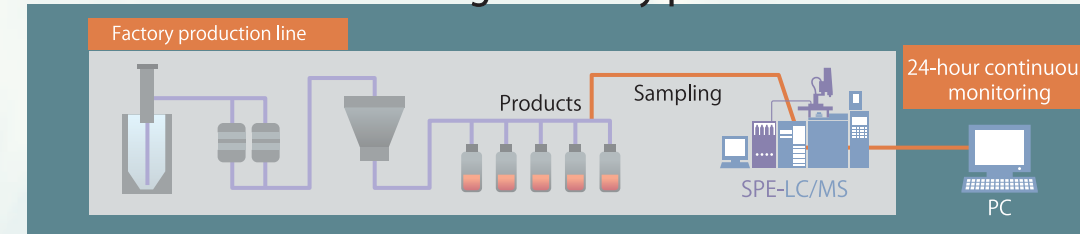
pH adjustment



Derivatization reaction

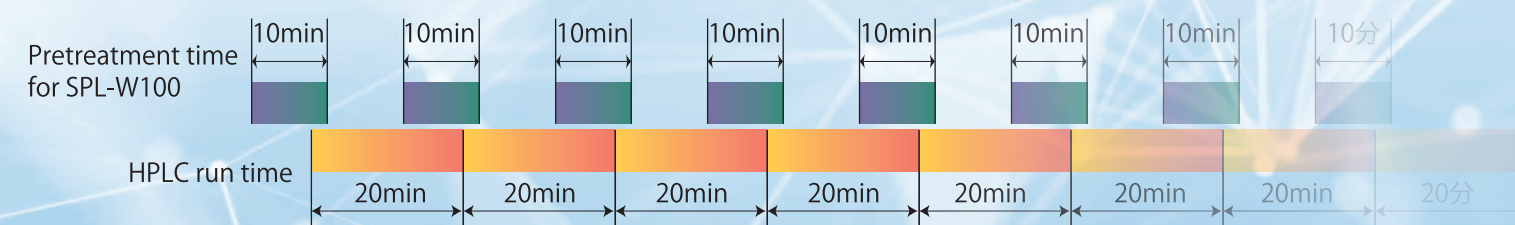


24-hour online monitoring of factory production lines



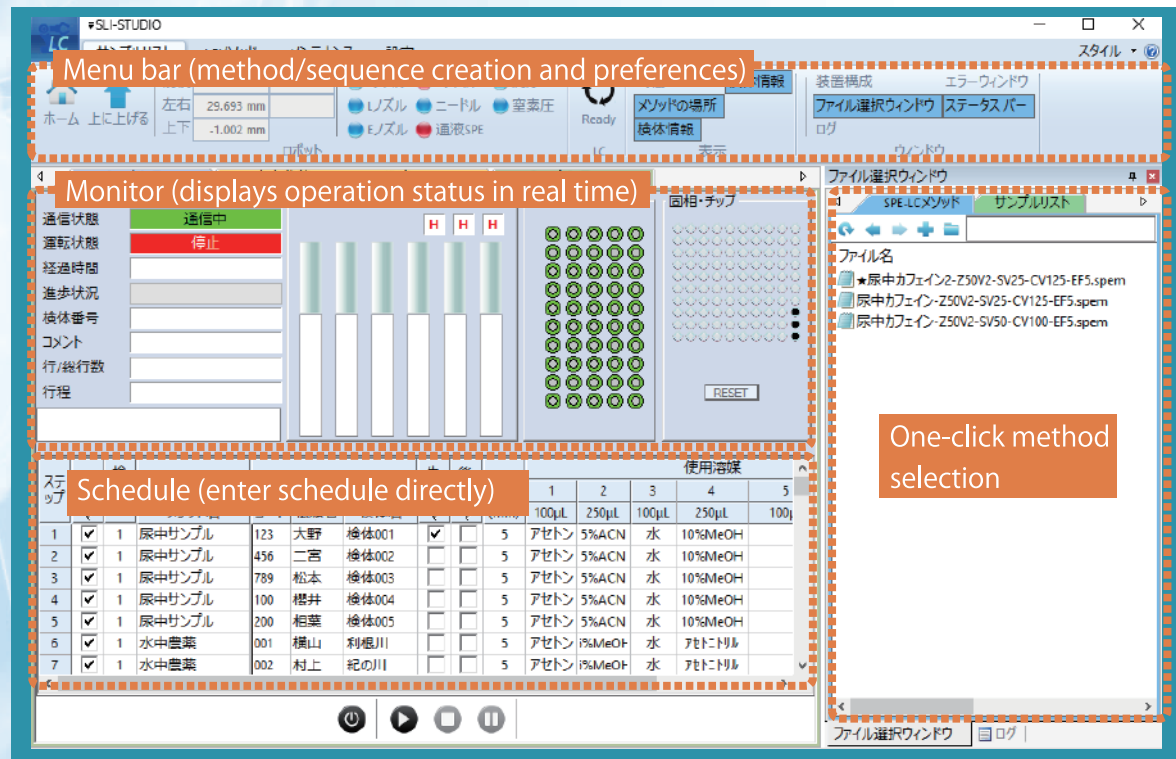
This system is effective for crisis management, such as checking products and products in each production line and process in factories, quality control, and wastewater check.

Analysis Cycle Time



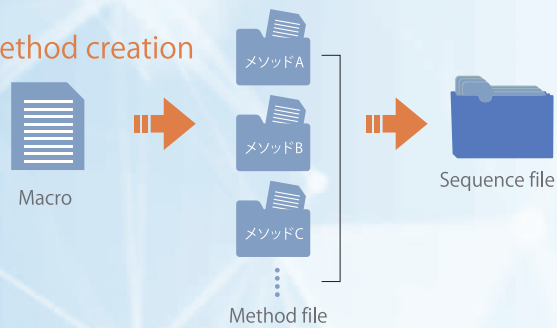
Software

Intuitive and easy to use software

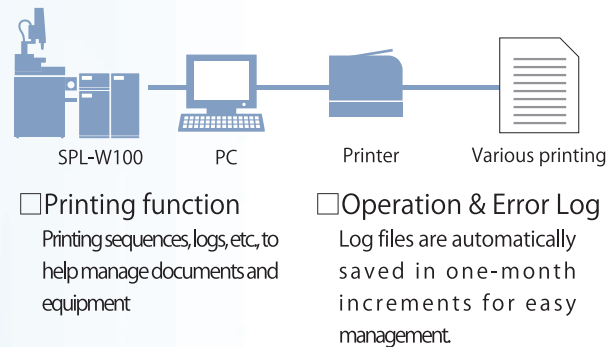


Ability to create your own methods

Free method creation

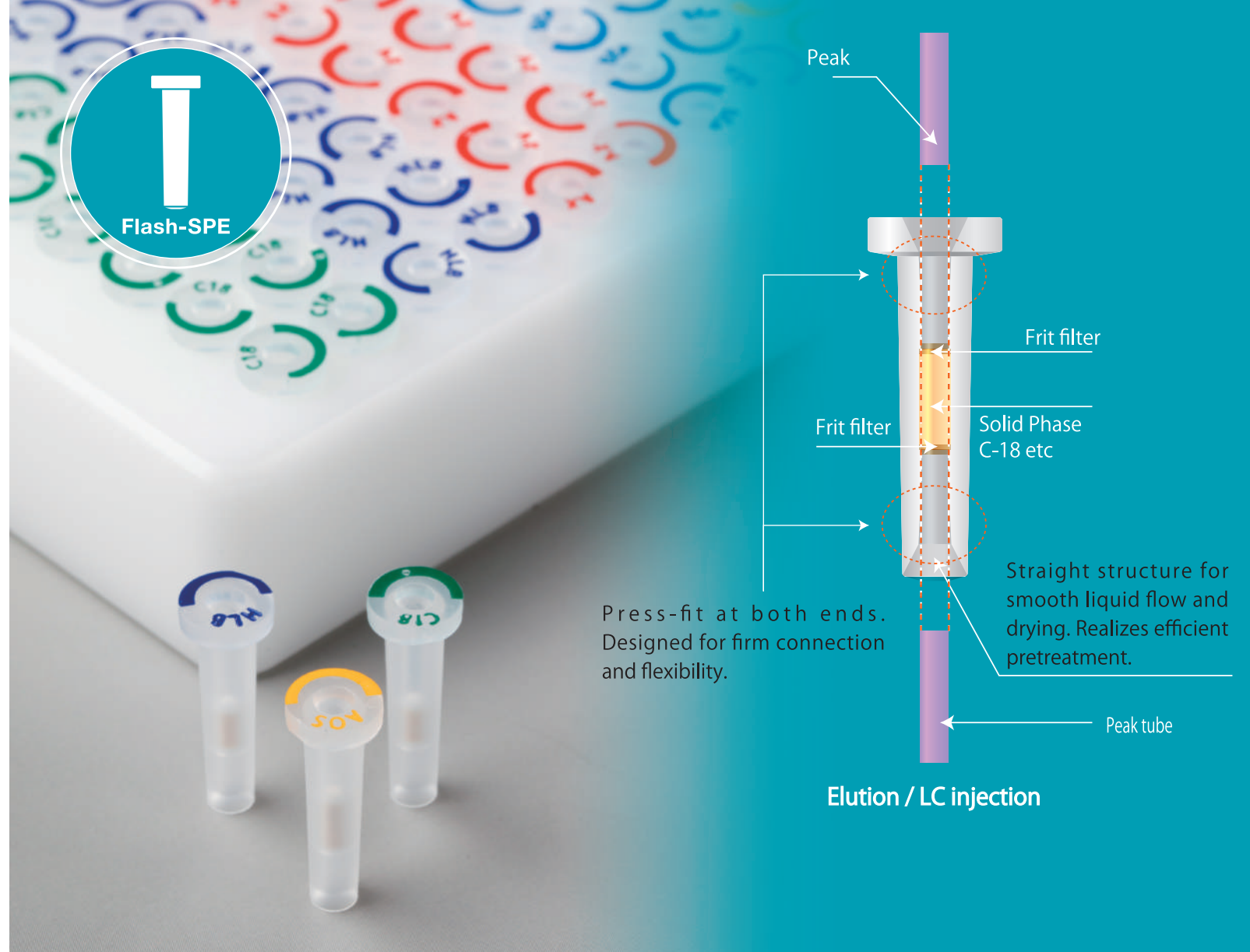


Various log functions to record operational status



command	検体名	検体番号	検体濃度	検体温度	検体圧	検体流量	検体時間	検体回数	検体単位	検体注釈	検体コメント	検体実行数	検体行程
1	検体001	123	大野	検体001	5	アセトン	5%ACN	水	10%MeOH				
2	検体002	456	二宮	検体002	5	アセトン	5%ACN	水	10%MeOH				
3	検体003	789	松本	検体003	5	アセトン	5%ACN	水	10%MeOH				
4	検体004	100	櫻井	検体004	5	アセトン	5%ACN	水	10%MeOH				
5	検体005	200	相葉	検体005	5	アセトン	5%ACN	水	10%MeOH				
6	検体006	001	横山	検体006	5	アセトン	5%ACN	水	10%MeOH				
7	検体007	002	村上	検体007	5	アセトン	5%ACN	水	10%MeOH				

ログ	日時	内容
2020/11/03 20:28:30	溶媒 1:アセトリル 2:0.1%ギ酸水 3:1ACN-1W 4:2%	終了しました
2020/11/03 20:36:09	SPEシーケンス1.spsが終了しました	
2020/11/04 08:14:45	SPEシーケンス1.spsを開始しました	
2020/11/04 08:14:46	STEP:01を開始しました	
2020/11/04 08:14:46	検体:1	
2020/11/04 08:14:46	メソッド名:★尿中カフェイン2-Z50V2-SV25-CV125-E	
2020/11/04 08:14:46	コード:	
2020/11/04 08:14:46	依頼者:	
2020/11/04 08:14:46	検体名:	
2020/11/04 08:14:46	溶媒 1:アセトリル 2:0.1%ギ酸水 3:1ACN-1W 4:2%	
2020/11/04 08:22:30	終了しました	
2020/11/04 08:30:46	STEP:02を開始しました	
2020/11/04 08:30:46	検体:2	
2020/11/04 08:30:46	メソッド名:★尿中カフェイン2-Z50V2-SV25-CV125-E	
2020/11/04 08:30:46	コード:	
2020/11/04 08:30:46	依頼者:	
2020/11/04 08:30:46	検体名:	
2020/11/04 08:30:46	溶媒 1:アセトリル 2:0.1%ギ酸水 3:1ACN-1W 4:2%	
2020/11/04 08:38:22	終了しました	



Flash-SPE solid-phase cartridge (patented)

Solid-phase cartridges for online SPE-GC

Low filling volume for waste-free analysis

- Linear structure for smooth flow of samples and solutions
- Simple structure optimized for automation
- Small solid-phase fill volumes of 2 to 5 mg
- Piping connections at both upper and lower ends

