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全自动制备液相纯化系统

Preparative LC Auto Purification System

北京清博华科技有限公司

Beijing Qingbohua Technology Co., Ltd

Company Profile

Beijing Qingbohua Technology Co., LTD. (hereinafter referred to as "Qingbohua Technology") specializes in the development and production of liquid chromatography instruments and core components.

Qingbohua Technology has established a mature R & D and production system, strict quality management and comprehensive customer service support.



Unattended Overnight Purification

The preparative liquid chromatography system APP2000 enables separation and purification at the milligram to gram scale. APP2000 is automatic, stable and reliable. It is easy to achieve purification overnight, helping you to cope with the increasing sample volume, so that the purification work is no longer complicated.

Convenient

The self-developed workstation EasyChrom can edit the preparative method online and print the experimental report automatically.

Stable

The careful design of core components ensures the stable infusing, sampling and collection.



Reliable

APP2000 has various abnormality protection functions, such as injection needle detection and protection, leakage alarm function, overpressure pause, low level solvent alarm and so on.



Efficient

Equipped with automatic sampler and fraction collector, the system can realize unattended purification.

With the use of large collection racks, 10 tube choices of different capacities are available and up to 576 bits can be achieved.



Efficient

APP2000 has unique advantages in improving the efficiency of separation and purification. From the automatic operation mode of the system to the unique injection needle design, it truly considers the user's application scenario in many aspects, takes care of the user's experience from many angles, and helps the user to improve the component recovery rate at multiple levels.

Automatic Unattended Operation

APP2000 can realize automatic unattended operation, free the hands of the experimenter, and can stably perform separation and purification work even at night, greatly improving the preparation efficiency.

Extremely Low Sample Residue

The unique design of the injection needle enables it to touch the bottom to absorb samples, reducing sample waste and improving sample utilization and component recovery.

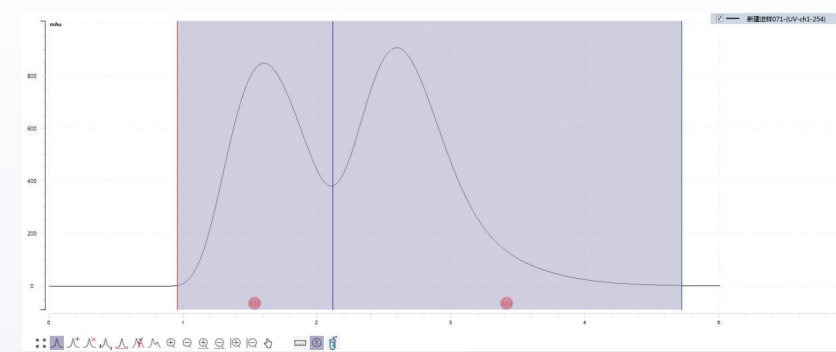


Unique Cyclic Loading

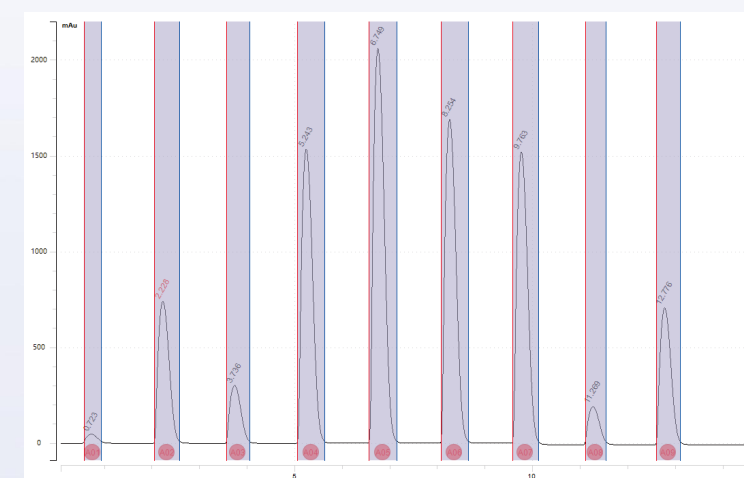
The separated modular design of the autosampler and fraction collector allows injection and collection to be performed independently, thus supporting early sample loading, which improves sample purification speed and reduces solvent consumption.

Rich Collection Options

APP2000 offers more than 10 test tubes of different capacities, and has a wide collection range of up to 576 bits. In addition, various collection methods can be selected, such as time, volume, threshold, and slope, to meet the collection requirements of different application scenarios.



Collect by threshold: The threshold is greater than 10mAu



Collect by peak: The threshold is greater than 10mAu

Stable

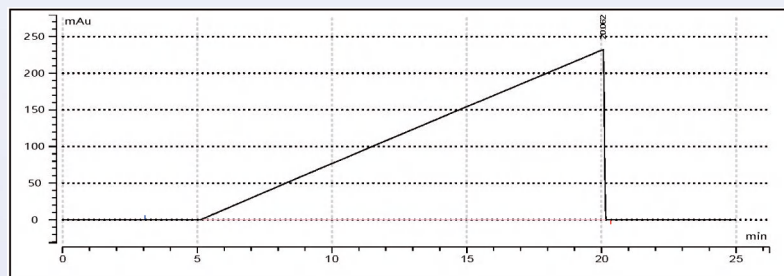
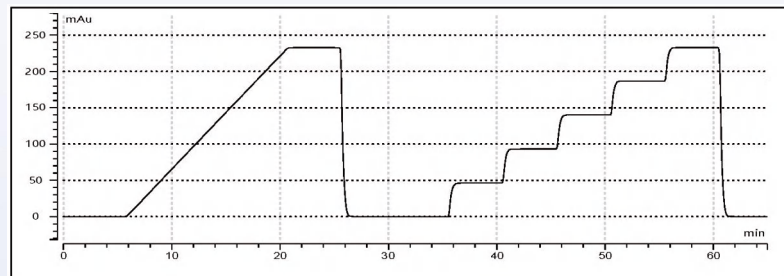
The core components are specially designed for preparation experiments, with high precision and stable performance, and can smoothly carry out separation and purification under unattended conditions.

Steady Flow

The optimized CAM curve and stepper motor make the flow of the infusion system more stable. Ten-point flow correction ensures flow accuracy in the whole range.



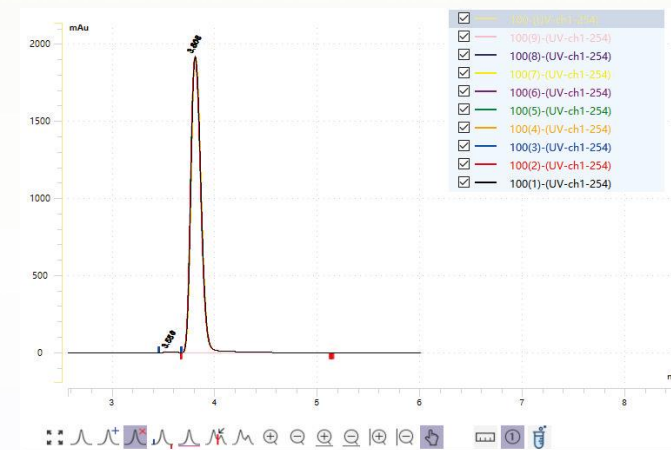
▲ High pressure pump



← The precise mixing of the mobile phase in set proportions ensures the accurate realization of the preparation method.

Accurate Sampling

The single step error is controlled within 0.065 microliter due to the very small motor step distance. Gap-eliminating program ensures excellent injection accuracy and linearity. Unique internal and external needle cleaning structure ensures extremely low sample residue.



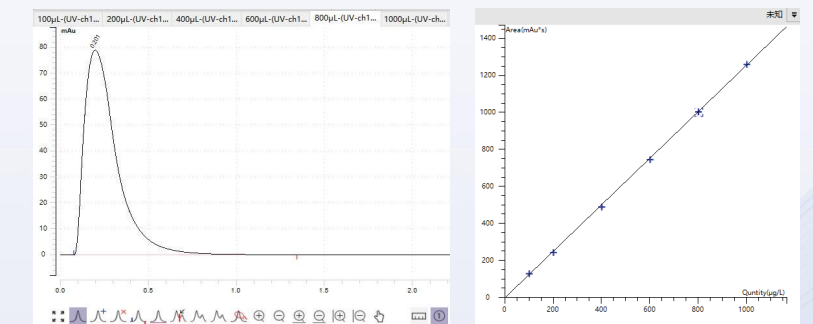
Component name	Sample name	Retention time(min)	PeakArea(mAu*s)	Peak height(mAu)
未知2	100(1)-(UV-ch1-254)	3.811	13267.23648	1921.889
未知2	100(2)-(UV-ch1-254)	3.807	13263.26874	1920.317
未知2	100(3)-(UV-ch1-254)	3.808	13243.51625	1921.065
未知2	100(4)-(UV-ch1-254)	3.814	13234.88706	1920.894
未知2	100(5)-(UV-ch1-254)	3.806	13250.26683	1921.970
未知2	100(6)-(UV-ch1-254)	3.808	13266.66092	1922.374
未知2	100(7)-(UV-ch1-254)	3.813	13264.61210	1921.972
未知2	100(8)-(UV-ch1-254)	3.807	13250.63501	1921.702
未知2	100(9)-(UV-ch1-254)	3.803	13274.27579	1923.052
未知2	100-(UV-ch1-254)	3.813	13270.11301	1920.765
未知2	AVG	3.809	13258.54722	1921.600
未知2	RSD(%)	0.09	0.10	0.04



▲ Semi-preparative autosampler

← The RSD of retention time, peak area and peak height are all extremely low.

Coefficient of linear correlation between injection volume and peak area



No.	Standard Sample	Valid	Level	Concentration(µg/L)	PeakArea(SignalUnit*)
1	100µL-(UV-ch1-254)	☑	Concentration level1	100.000	129.41595
2	200µL-(UV-ch1-254)	☑	Concentration level2	200.000	244.17358
3	400µL-(UV-ch1-254)	☑	Concentration level3	400.000	490.15890
4	600µL-(UV-ch1-254)	☑	Concentration level4	600.000	746.32665
5	800µL-(UV-ch1-254)	☑	Concentration level5	800.000	1004.45805
6	1000µL-(UV-ch1-254)	☑	Concentration level6	1000.000	1261.34743

Precise Collection

The precise pipeline design of the fraction collector shrinks the dead volume, and EasyChrom can set the delay volume to further ensure accurate collection. At the same time, the imported high-precision solenoid valve can instantaneously "close-open" switch the bottle, keep the waste liquid channel independent, and ensure that the switching process is without drip and pollution.



Convenient

APP2000 is equipped with EasyChrom chromatographic software independently developed by QingBohua Technology. EasyChrom is easy to operate and versatile, which helps users to easily control the operation of the purification system.

Simple and Friendly Operation Interface

EasyChrom adopts single-page mode, which means many functions are gathered in one page and there is no need to switch back and forth. The page displays the operation visually with device modularization and status graphics.

Modify the Running Method Online

EasyChrom has the function of online modification, so that users can modify the preparation method in real time during the operation of the system, to realize the preparation purpose quickly and flexibly.

Automatically Print Report Results

The custom report and automatic printing functions of EasyChrom enable users to quickly obtain experimental reports and results after the end of experiments.

Reliable

APP2000 is designed with a variety of abnormality protection features to ensure the safe operation when unattended.

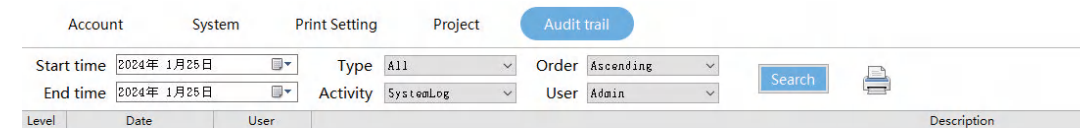
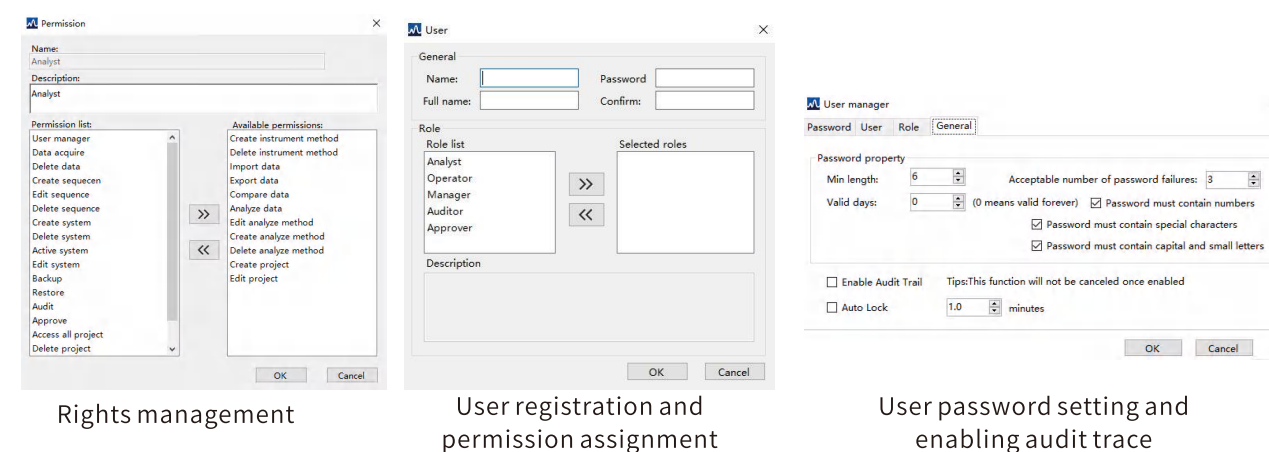
Abnormality Protection

The abnormality protection functions of APP2000 can effectively deal with various abnormal situations during system operation, preventing sample and data loss.

Injection needle detection and protection	Prevent damages to the injection needle due to incorrect operations by users. In the event of needle collision, the system will automatically pause.
Leakage alarm function	If the system runs abnormally and leakage occurs, the software will automatically suspend and issue alerts, avoiding wasting samples and solvents.
Overpressure pause	When the pressure in the system is too high, too low or too volatile, the software will automatically suspend and issue alerts.
Low level solvent alarm	The software will monitor the amount of mobile phase in the system in real time and alarm the user when the solvent is about to be insufficient.
Automatic shutdown at the end of operation	The instrument automatically closes at the end of the operation, without manual shutdown, which can reduce equipment loss and solvent loss.
Save acquired data in real time	During the operation of the chromatography system, EasyChrom will save the currently acquired data in real time once every 5 minutes to avoid data loss due to accidental power failure or abnormal shutdown.

Safe and Compliant

EasyChrom is fully compliant with CFDA GxP and FDA 21 CFR Part 11 regulations. It is equipped with strict rights management, audit tracking function, user registration, database security encryption.



The page of audit trace query

Service

Qingbohua technology adhere to the real needs, to provide users with perfect and intimate sales services. If you encounter any problems, please feel free to contact us.

For instruments in need of maintenance, we will conduct detailed inspection after receiving the instrument, communicate with you to confirm the maintenance plan, and timely track and feedback the maintenance status, caring for you to deal with the problem.

Our after-sales service personnel are highly professional, warm and sincere, ready to enhance your satisfaction and experience.

Preparative LC Auto Purification System APP2000

UV-visible Detector

Model	UV-visible Detector Model UV3000D
Detection System	190-800nm Wavelength, Single and Even Wavelength Mode Optional
Wavelength Range	190-800nm, 1nm Increment, Deuterium Lamp Tungsten Lamp Optional
Wavelength Accuracy	1nm
Wavelength Precision	±0.1nm
Baseline Noise	±0.5×10 ⁻⁵ AU
Baseline Drift	2×10 ⁻⁴ AU
Volume of Flow Cell	Semi-preparation: 50ul Preparation: 110ul
Detection Range	0-3Au
Pipe Connection	Semi-preparation: 1 / 16" Line Connection Preparation: 1 / 8" Line Connection
Display Parameters	OLED
Control	Instrument Panel Control or Computer Reverse Control
Power	100~240VAC, 50 / 60Hz, 75W
Communication Interface	USB; RS-232; External Input and Output
Weight	10 kg
Size	400×270×165mm (L×W×H)

Semi-preparative Autosampler

Model	Semi-preparative Autosampler Model ASD1000	Residual Effect	<1% (Perform the Cleaning Procedure after Sample Injection)
Tray Type	96 bit×9 ml Test Tube and 42 bit×25ml Tube Optional Default 96 bit	Pressure	<20Mpa
Injection Volume	50ul-20ml	Injection Cycle Time	<32s (5ml Suction, Normal Speed)
Increment	1ul	Leakage Alarm	Yes (including Liquid Leakage Collection)
Injection Precision	<1%	Communication Mode	RS232, USB
Injection Accuracy	±2%	Weight	26kg
Linearity	>0.9998	Size	525×340×400mm (L×W×H)



100ml High Pressure Pump

Model	100ml High Pressure Pump Model P3100	Pipe Connection	1 / 16" OD Standard Line Connection
Infusion System	Double Piston Parallel Mode, Floating Piston Design	Display Parameters	OLED
Flow Range	0.01-99.99ml/min Increment of 0.01 ml/min	Control	Instrument Panel Control or Computer Counter-control
Flow Accuracy	± 0.5 %	Power	100~240VAC, 50/60Hz 75W
Flow Repeatability	RSD ≤ 0.1%	Communication Interface	USB; RS-232
Pressure Fluctuation	≤ 0.3Mpa	Weight	10kg
Pressure Range	≤ 20 Mpa (316L Stainless Steel Pump Head)	Size	400×270×165mm (L×W×H)

50ml High Pressure Pump

Model	50ml High Pressure Pump Model P3050	Pipe Connection	1 / 16" OD Standard Line Connection
Infusion System	Double Piston Series Mode, Floating Piston Design	Display Parameters	OLED
Flow Range	0.01-50ml/min Increment of 0.01 ml/min	Control	Instrument Panel Control or Computer Counter-control
Flow Accuracy	± 0.5 %	Power	100~240VAC, 50/60Hz 75W
Flow Repeatability	RSD ≤ 0.1%	Communication Interface	USB; RS-232
Pressure Fluctuation	≤ 0.3Mpa	Weight	10kg
Pressure Range	≤ 30 Mpa (316L Stainless Steel Pump Head)	Size	400×270×165mm (L×W×H)

Fraction Collector

Model	Fraction Collector Model PC-1000
Number of Collected Bits	18, 60, 144, 420, 450, 576 bit Optional Default 420 bit
Collection Rack Number	6 (A, B, C, D, E, F)
Flow Range	0-200ml/min
Pressure Range	<2bar
Collecting Tube Type	Glass Tube
Collecting Tube Specification	18-Bit Collection Bottle Specifications: Diameter 95mm, Height 190mm, Single Bottle Capacity 1000ml 60-Bit Glass Tube Specifications: Diameter 50mm, Length 150mm, Single Tube Capacity 250ml 144-Bit Glass Tube Specifications: Diameter 30mm, Length 150mm, Single Tube Capacity 80ml 420-Bit Glass Tube Specifications: Diameter 18mm, Length 150mm, Single Tube Capacity 25ml 450-Bit Glass Tube Specifications: Diameter 15mm, Length 150mm, Single Tube Capacity 15ml 576-Bit Glass Tube Specifications: Diameter 13mm, Length 150mm, Single Tube Capacity 9ml
Materials in Contact with Liquids	PTFE, PEEK, FFKM
Thread Specification	UNF 1/4-28
Power	100-240V, 50-60Hz
Communication Mode	RS232, USB
Weight	43kg
Size	925×625×700mm (L×W×H)