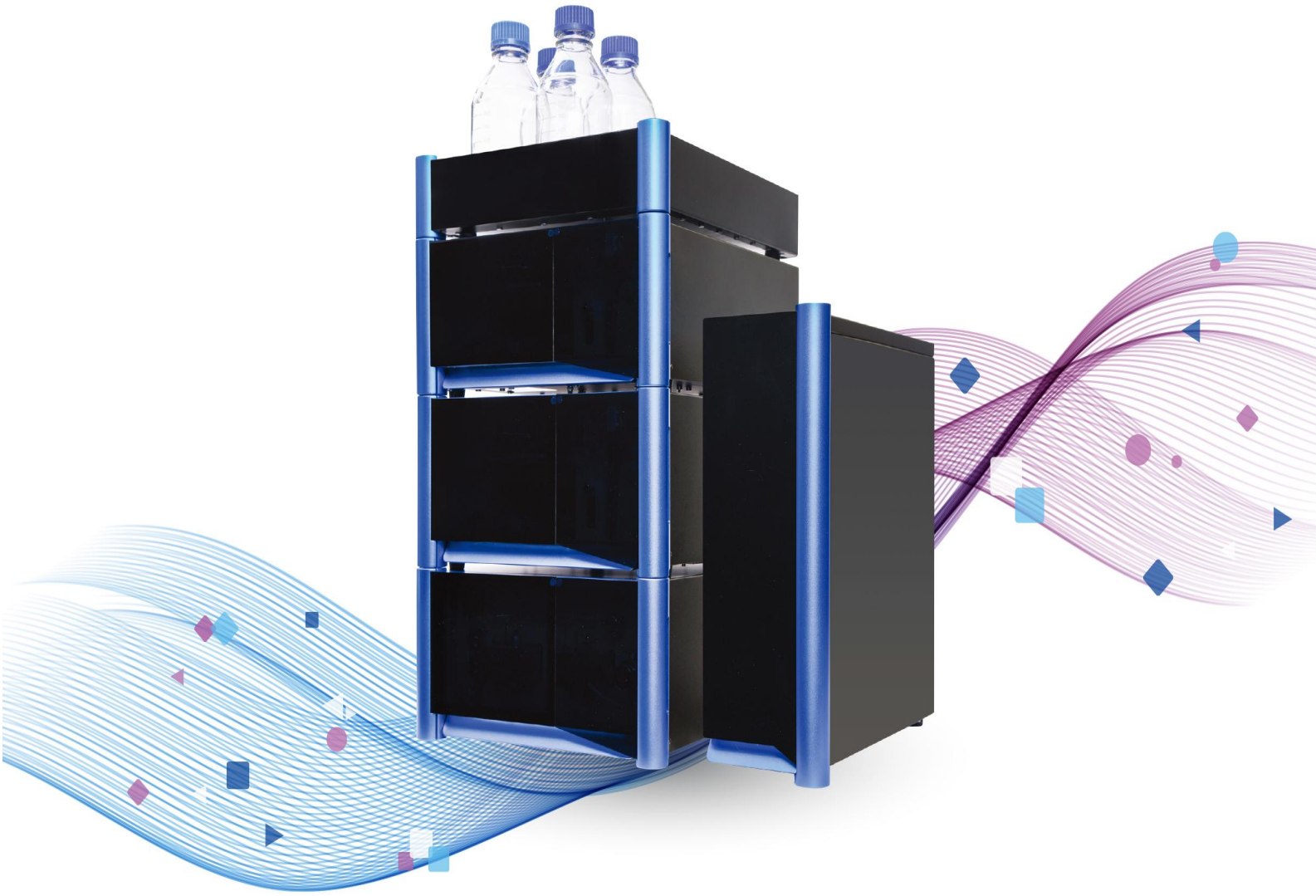
OPTOSKY
Spectroscopy Solutions



LC 3200

High Performance Liquid Chromatograph System

Classic inheritance, professional technology, compatibility and super efficiency

Classic technology

- The design of metal transparent material and breathing lamp perfectly combines technology and fashion elements, making the instrument framework a new design language.
- The left and right symmetrical beam line design inside the column makes the flow path in a ring layout and has the storage function.
- The black surface material is resistant to conventional HPLC solvent corrosion.

Automatic ultra accurate

- The "dark" array technology of light path is used to realize the automatic calibration of dark current.
- The automatic control of the lens switching mechanism and the dynamic variable slit device is realized by using the control circuit, which realizes the automatic real-time calibration of the data signal and improves the accuracy of the detection results.

Flexible efficient

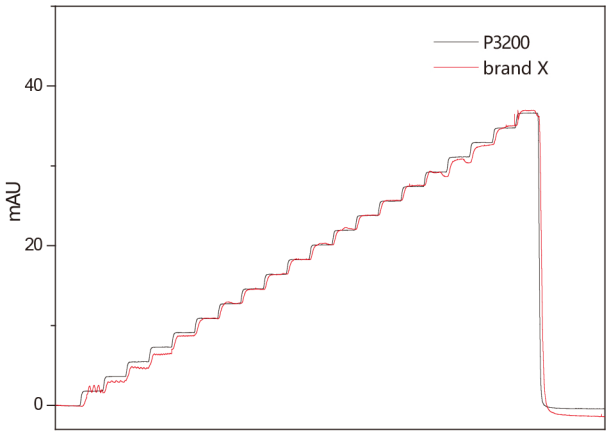
- Through the highly integrated solvent switching system, the high-pressure binary can have the function of double high-pressure binary, even double four high-pressure, which makes the complex work simple.
- The automatic dilution and derivatization function of the autosampler makes the experiment easier.
- Use for ultra performance liquid chromatography.
- Use as the front end of mass spectrometry.

Long term high precision

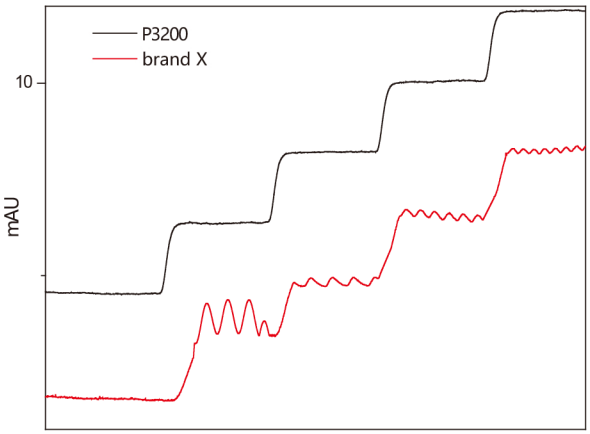
- The innovative double seal floating plunger and the motor driven cam drive plunger realize the accurate transmission of fluid. With the new drive control method, the infusion pulsation of the system is reduced,
- and the durability and precision of the instrument are improved. Intelligent high-precision cam detection device, ingenious design, reasonable layout, matching can simulate the actual working situation of the push rod structure, improve and ensure the validity of detection data.
- Double contrast loop leakage sensor and perfect guide groove design make leakage alarm more accurate and timely.

Easy composition and perfect baseline

During the experiment, when the absorbance difference between AB and ab phases is large at the set wavelength, the baseline regular fluctuation is easy to appear in low proportion mixing. E3200 high pressure constant flow pump adopts patented pulsation damper and gradient mixer, which greatly reduces pulsation and improves mixing effect. Even at the limit ratio of 1:99, it has perfect baseline performance.

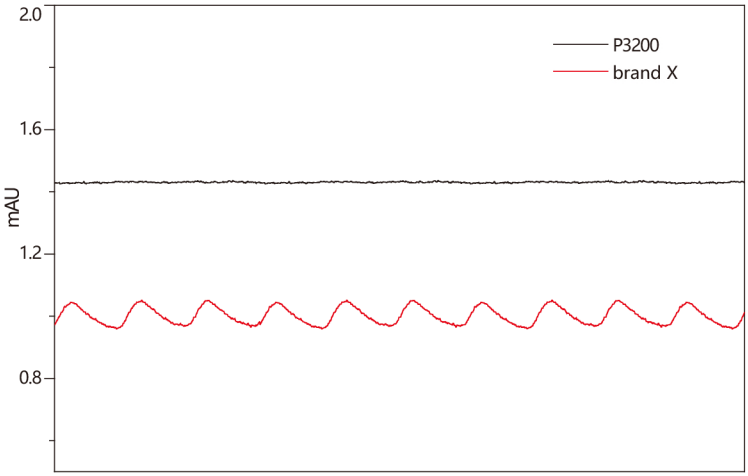


Comparison of 1% ~ 20% small scale baseline pulsation



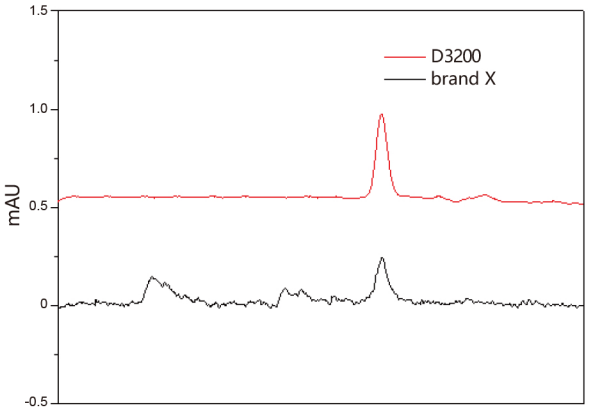
Comparison of 1% ~ 5% small scale baseline pulsation

mobile phase：
2% acetone aqueous solution:H_2O=1:99
detector：UV254nm
flow：1.0mL/min
temperature：room temperature
pressure：No back pressure

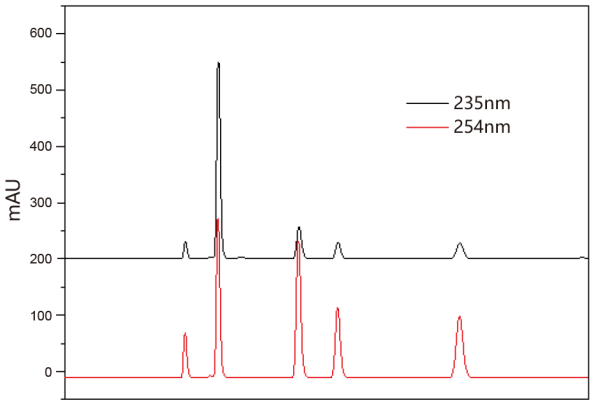


Easy to be sensitive and knows you better

It is often encountered in experiments that different analysis methods and different detection environments have different sensitivities. E3200 system's independent new detection pool, unique air duct system and micro step driver control the static angle of the unique technology, while achieving high precision, high sensitivity, low noise, low drift performance, so that the laboratory analysis work to achieve twice the result with half the effort.



Comparison of baseline noise and detection limit of 1.0×10^{-7}g/mL naphthalene solution
Minimum detection concentration：S/N=2，LOD 5×10^{-9}g/mL

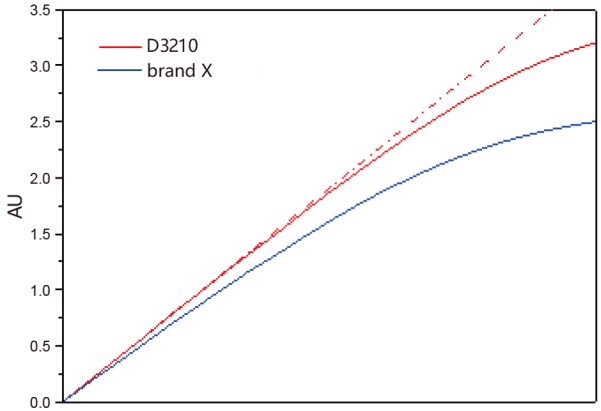


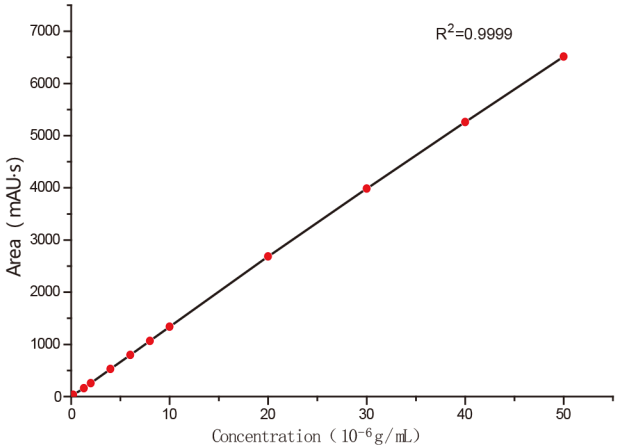
The acquisition interface in dual wavelength mode

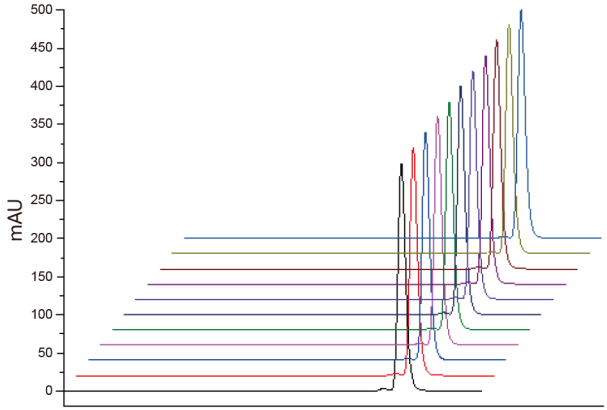
Easy analysis and stable for quantitative

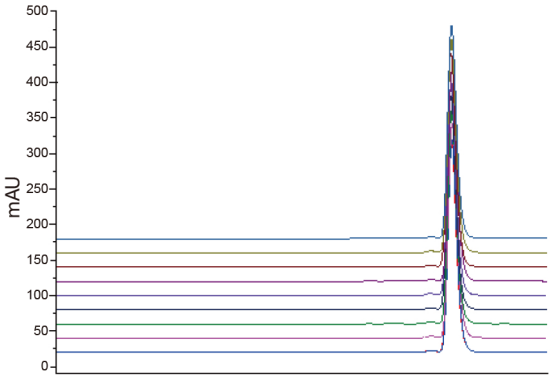
The data acquisition system adopts 24 bit high-precision AD conversion chip, with high data acquisition accuracy and wide linear range, up to 2.5AU, which can meet the requirements of high concentration and micro quantitative analysis at the same time.

0.1-50μL The injection volume reached R^2= 0.9999, both in micro injection and large volume injection.







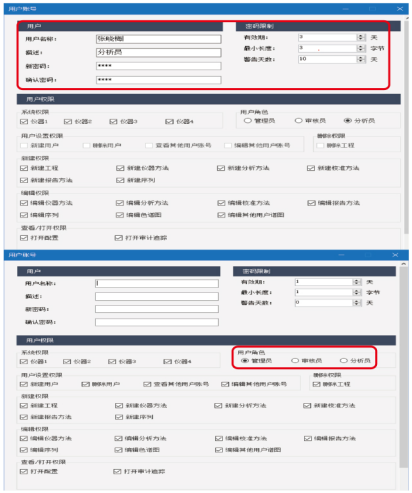


RSD of peak area was 0.09%

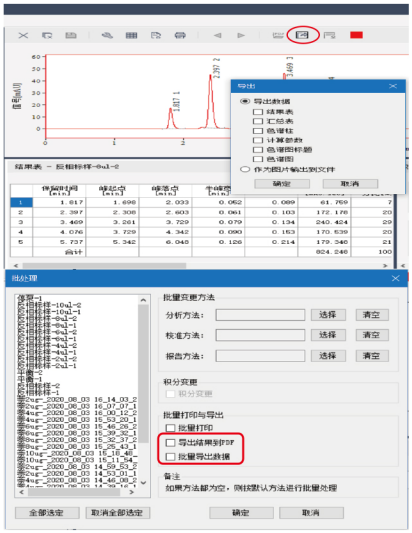
Super housekeeper and smooth communication

Kromstation Chromatographic data workstation chromatographic data workstation is the LC system workstation software independently developed by Yilite company, which conforms to CNAs certification. Kromstation can control liquid chromatography with personal computer and complete various operations. It has powerful functions such as database, audit tracking, GLP, data archiving and backup, electronic signature, permission setting, network management, etc. in the process of use, the interface is simple and easy to use.

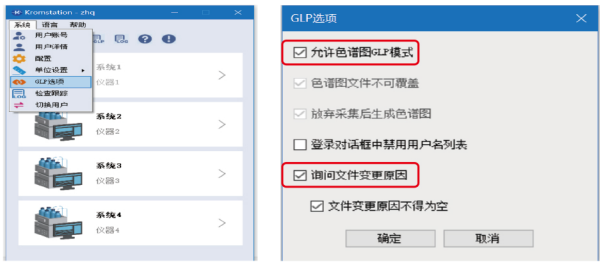
Safety



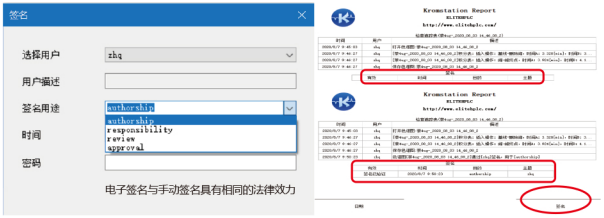
Efficient



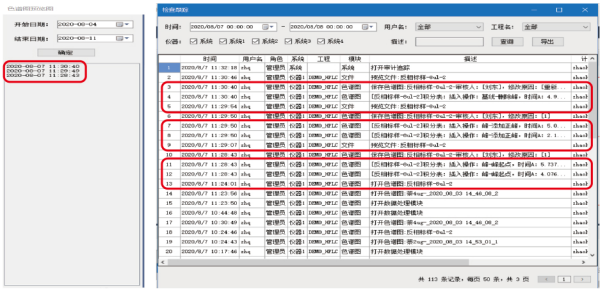
Complete



Convenient



Traceabl



Performance Specification of P3200 pump

Flow Rate	0.001-10.000mL/min (Step:0.001mL/min)
Flow accuracy	≤±0.2%
Flow stability	RSD≤0.06%
Max Pressure	70MPa
Pressure display error	±0.3MPa
Pressure pulsation	≤0.1 MPa
Gradient composition range	0-100%,0.01% delta
Gradient mixing accuracy	≤±0.5%, does not vary with backpressure
Gradient composition accuracy	≤0.1% RSD
Communication mode	UDP
Dimension/Weight (Long by wide by high)	450×350mm×180mm/18kg
Power Supply	110-220V,50-60Hz
Power	300W

Performance Specification for O3200 column oven

	O3210	O3220
Temperature range	Ambient temperature+5℃~99℃	Ambient temperature+5℃~85℃
Accuracy	±0.1℃	±0.1℃
Precision	≤0.1℃	≤0.1℃
Communicate mode	485line/UDP	485line/UDP
Dimension/Weight (Long by wide by high)	120×65×570mm/4.2kg	435×137×450mm/11kg
power supply/Power	AC220V±10%,50Hz/110W	AC110-220V,50-60Hz/130W

Performance Specification of D3230 detector

Number of arrays	512
Light resource	Deuterium lamp
Array resolution	1.2nm
Spectral resolution	2.4nm(slit100μm)
Wavelength range	190-800nm
Wavelength accuracy	±1.0nm
Dynamic short-term noise	≤±1.0×10-5AU
Dynamic baseline drift	1.0×10-4AU/h
Linearity range	≥2.0AU
Detection pool withstand pressure	1000psi
Detection pool	Analytics pool:10mm 11μL
	Semi-micro pool:5mm 2.5μL
Analog signal output range	-0.5-2.5AU
Communication mode	UDP

Performance Specification of S3200 sampler

Injection range	0-100μL(Standard)，1-2000μL（Matching）
Capacity	2mLSample vials 120bits; 1mLSample vials 210bits; compatible 4.0mLSample vials and 96-well plate
Sample residue	＜0.002%
Injection repeatability	RSD＜0.2%
Max Pressure	45MPa
Injection speed	10s or less
Dimension/Weight	440×378×180mm（Long by wide by high）/13kg
Power Supply	110-220V,50-60Hz
Power	30W

Performance Specification of D3200 detector

Wavelength range	190nm-800nm
Light resource	Deuterium lamp and Tungsten lamp
Noise	≤±0.25×10-5AU
Wavelength accuracy	±1.0nm
Sampling frequency	5-80Hz sadjustable (Single wavelength mode)
	A wavelength of 1.0s (Dual wavelength mode)
Wavelength repeatability	≤±0.1nm
Max Pressure	1500psi
Spectral bandwidth	8nm
Minimum detection concentration	1×10-9g/mL
Drift	≤0.5×10-4AU/h
Linearity range	≥2.5AU （Customizable3.0AU）
Detection pool	Analytics pool:10mm 11μL
	Semi-preparation pool:5mm 2.5μL
Time constant	0.1s-5.0s adjustable
Dimension/Weight	440×378×160mm（Long by wide by high）/10kg
power supply/Power	110-220V,50-60Hz/100W

Application Examples

Zhi Mu Saponin BII in Zhi Mu Drinking Tablets

Column: SinoChrom C8 5μm 4.6mm×250mm

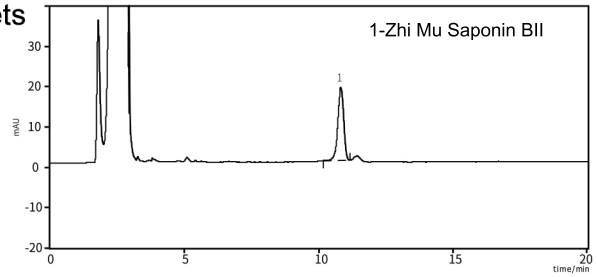
Mobile phase: Acetonitrile/Water =25/75

Flow rate: 1.0mL/min

Detector: ELSD

Injection volume:10μL

Column temperature:30°C



Acetate in hemodialysis concentrate

Column: Supersil ODS2 5μm 4.6mm×250mm

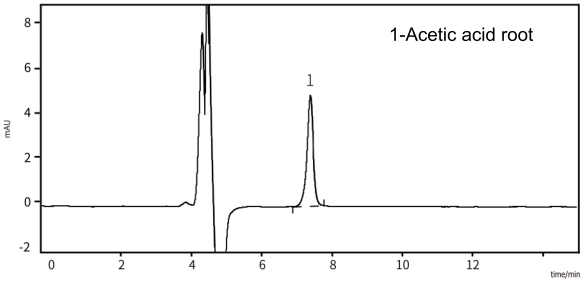
Mobile phase: Acetic acid root:10mmol/L Potassium phosphate (pH=2.3)/ Methanol solution=90/10

Flow rate:0.6mL/min

UV:220nm

Injection volume:10μL

Column temperature:35°C



Zinc pyrithione in shampoo

Column :SinoChrom ODS- BP 5μm 4.6mm×250mm

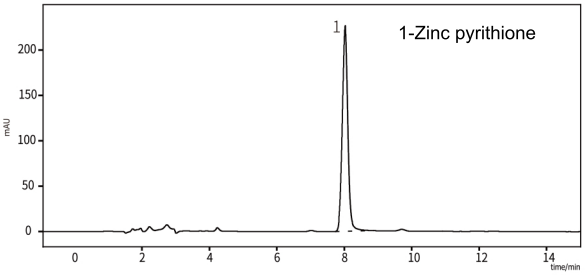
Mobile phase: Acetonitrile/Water solution (0.01mol/L Potassium phosphate and 0.0005mol/LEDTANa2, Adjustment with phosphoric acid pH=4.0) =30/70

Flow rate:1.0mL/min

UV:230nm

Injection volume:5μL

Column temperature:25℃



Application Examples

Colorant brilliant blue, para blue

Column: Supersil ODS2 5μm 4.6mmX250mm

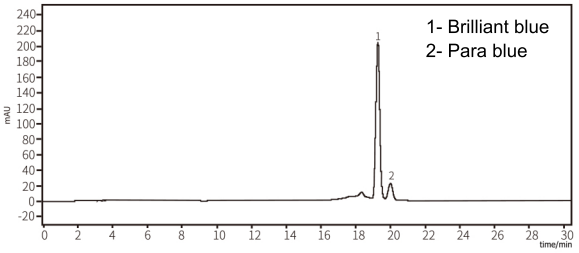
Mobile phase A: Methanol; B:1.42gDisodium hydrogenphosphate and1.36gPotassium phosphate dissolved in 1000mL of water; Gradient elution

Flow rate:0.8mL/min

UV:254nm

Injection volume: 10μL

Column temperature:40°C



Glyphosate

Column: Supersil SAX 4.6mmX 250mm

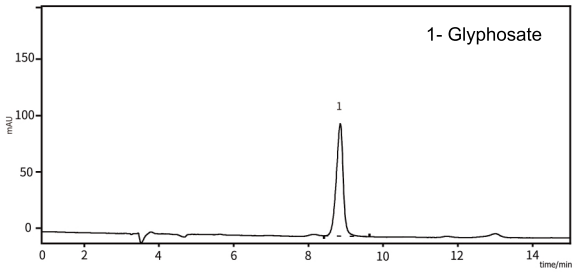
Mobile phase:6.8gPotassium phosphate dissolved in 1000mL pure water, Adjustment with phosphoric acid pH=2.52

Flow rate: 1.0mL/min

UV: 195nm

Injection Volume:30μL

Column temperature:22°C



Amino acid

Column: Supersil Coreshell

Mobile phase: A:50mM Sodium acetate aqueous solution (pH adjusted to 6.0); B: Methanol / Acetonitrile/Water =45/45/10 (VNM); Gradient elution

Flow rate:0.7mL/min

Detection wavelength: Excitation230nm, Emission450nm

Injection volume:10μL

Column temperature:30°C