YK-IC-2600 Ion chromatograph

YK-IC-2600 series ion chromatograph is the ion chromatograph product launched by YUKE. Can perform suppressed or non-suppressed conductivity detection and ampere detection, main chassis, full PEEK double plunger series pump, injection valve, guard column/separation column, column oven with preheating function, electrolysis self-regeneration suppressor, with The thermostatic device is composed of conductivity detector, ampere detector and multi-channel data processing and instrument control software system.

The YK-IC-2600 series ion chromatograph combines the advanced results of ion chromatography research at home and abroad, and combines the characteristics of high detection sensitivity, high operational stability and modular combination of functions. Various detection modes can be configured according to customer detection needs: direct conductivity detection, suppressed conductivity detection, ampere detection, and conductivity ampere series detection. It is suitable for testing work in various fields such as environmental monitoring, disease control, medicine, chemical industry, metallurgy, hydrogeology, agriculture, feed, electronic industry, electric power, nuclear energy research, food safety, scientific research and teaching, etc.

1. Features

1.1 Adopt an integrated appearance and professional component modular design, all-plastic flow path, no dissolution pollution and a complete flow path protection system;

1.2 The host machine has a 7.0-inch touch screen, embedded with simple and reliable control software, with full-screen real-time display of working parameters such as conductance, current, flow, range, pressure, elution generator reverse control status, six-way valve status display, suppressor status, etc.; The instrument can monitor in real time and display in real time to provide appropriate real-time analysis condition parameters and analysis results. The host can have a graphical interface function for conductivity, which can display continuous sampling, waveform area, sampling cycle control and other functions in real time, and can modify and collect the work of each component online. Parameters, it can automatically perform rapid data collection and post-processing, and has the function of tracing instrument-related data and operating status to facilitate troubleshooting, status monitoring, spectrum display and other functions;

1.3 Unique one-button flushing makes it easy for customers to operate the instrument;

1.4 It adopts computer interface and touch screen synchronous control mode, has complete system monitoring functions, real-time monitoring of the operating status of the instrument, and revision of working parameters. It also has a data information protective memory function for easy use;

1.5 Integrated appearance design, humanized GUI graphical navigation system, simple operation, intuitive and easy to understand, in line with user operating habits, and convenient for users to master and use;

1.6 Automatic temperature control, which can maintain the constant temperature of the separation column during detection and analysis, and automatically heat up to the optimal temperature of the separation column at low temperatures to extend its service life;

1.7 Excellent anti-interference ability and rich scalability. It can be equipped with UV/VIS detector or pH and COND modules, which can be used for the analysis of unconventional samples. One machine can be used for multiple purposes;

1.8 In order to improve the sensitivity and stability of the instrument and meet the diverse testing needs of users, the entire machine uses industrial-grade electrical components and advanced shielding technology;

1.9 The joints and flow paths are resistant to strong acids and alkalis, have good versatility, and are compatible with organic solvents, improving the system’s high-pressure resistance and eliminating hidden dangers of flow path leakage;

1.10 The host can automatically identify the signal of the valve switching position and start the software for automatic analysis, which greatly avoids errors caused by manual operation;

1.11 The host can be automatically maintained and maintained, and the flow path can be started regularly to flush various system components to avoid pipeline crystallization;

1.12 With a chromatographic column with excellent selectivity and separation, all anions or cations in water can be detected.

2. Product parameters

2.1 Chromatography pump

2.1.1 High-pressure and low-pulse dual-piston series pump, using all PEEK material and inert material pump head and pipeline

2.1.2 Full PEEK pump head pressure range: 0-35MPa

2.1.3 Flow setting range; 0.001-10.000ml/min

2.1.4 Flow setting error: 0.1% (flow rate 1.0ml/min)

2.2 Injection valve

2.2.1 Imported automatic valve (C52-07A)

2.2.2 Use imported electric high-pressure six-way injection valve

2.2.3 Ability to switch between high and low pressure systems for samples

2.2.4 Pressure range: 0-35MPa

2.3 Anion suppressor

2.3.1 Adopts continuous automatic regeneration micro-membrane electrolysis suppression technology, no need for external acid, no auxiliary accessories and consumables, online automatic regeneration, and continuous and uninterrupted use

2.3.2 High voltage resistance, high suppression capacity, high performance, low background conductivity, low noise, stable baseline; anti-pollution, good pressure resistance, long life, wide range of use

2.3.3 Dynamic suppression capacity: 100μeq/min

2.3.4 Background suppression: 0.6μS/cm

2.3.5 Background noise suppression: 6nS/cm

2.3.6 Suppressor dead volume: <50μLμL

2.3.7 Current range: 0-300mA

2.3.8 Current setting increase: 0.1mA

2.4 Chromatographic column oven

2.4.1 Three-dimensional heating mode, uniform heating and accurate temperature control.

2.4.2 Flexible column card design, using chromatographic columns with different diameters

2.4.3 Temperature control range: 5-65℃

2.4.4 Temperature setting value error: ≤ 0.1℃

2.4.5 Temperature control stability error: ≤ 0.1℃

2.4.6 Compatible with 250mm and 150mm ion chromatography columns

2.5 Conductivity detector

2.5.1 Digital bipolar pulse mode, compatible with common eluent systems such as OH, MSA and carbonate.

2.5.2 Conductivity detection range: 0-15000μs

2.5.3 Detection cell volume: ≤0.3μL

2.5.4 Baseline noise: ≤0.5%FS

2.5.5 Baseline drift: <±0.8%FS/30min

2.5.6 Linear correlation coefficient: ≧0.999

2.5.7 Temperature setting value error: ≤0.1℃

2.5.8 Temperature control stability error: ≤0.1℃

2.5.9 Detection limit: (μg/g) Cl≤0.0005; NO3 - ≤0.005; Na+ ≤0.0005; Ca2+ ≤0.010

2.5.10 Compatible with 250mm and 150mm anion chromatography columns (separation column efficiency: ≥50,000/m (based on NO2-, SO42-)

2.5.11 Linear range: ≧102

2.5.12 Linear correlation coefficient: ≧0.999

2.5.13 Retention time repeatability error: NO3-, SO42-, Na+ and Ca2+ ≤1.0%

2.6 chromatographic column

2.6.1 High performance, one injection can simultaneously analyze F-, Cl-, Br-NO3-, NO2-, SO42-, PO4-, CLO2-, BrO3-, CLO3-, DCA anions, and drinking water to be released in 2023 Anions such as trichloroacetic acid and dichloroacetic acid required by the new standard

2.6.2 The column has high capacity, high resolution, good peak shape, and is suitable for the working range of PH 0-14.

2.7 PC data software system

2.7.1 Host 7.0-inch touch screen: ARM series, WIN 7 control platform, reliable and stable operation.

2.7.2 You can check the operating status of the instrument in real time and modify the instrument parameters.

2.7.3 The host and PC control software are connected in real time, and all states are synchronized

2.7.4 Real-time spectrum display allows appropriate operations on the spectrum to make analysis more intuitive.

2.7.5 The software is equipped with an instrument remote control function, which can control the instrument through a PC and synchronize with the touch screen.

2.7.6 Use a 24-bit A/D high-performance acquisition chip to achieve high-precision acquisition and processing of data signals. Simple and user-friendly data operation mode, powerful data processing and data analysis functions ensure that users can achieve accurate processing of complex data through simple operations.

2.8 High-pressure eluent generator: The basic principle of the eluent generator is that electrolyzed water generates eluent online. The electrolyzed water generates the anions and cations required for conductivity suppression, and the electrolyzed water completes the online regeneration of the capture column, making the analysis of ion chromatography possible. All you need to do is prepare high-purity water. It can further save time and manpower, while eliminating errors caused by manual eluent preparation, effectively improving analysis reproducibility. Make the original constant flow pump system automatically complete multi-stage gradient elution

2.8.1 Type of eluent: KOH/methane sulfonic acid

2.8.2 Eluent range: 0.1-100mM

2.8.3 Flow rate range: 0.1-5ml/min

2.8.4 High pressure: 30MPa

2.8.5 Gradient accuracy: 0.2%

2.8.6 Gradient accuracy: 0.15%

2.9 Liquid autosampler:

Picken Instruments YAS-180 autosampler adopts touch screen display. It is an efficient, intelligent, fully software-operated liquid autosampler with simple operation, clear interface, high stability, convenience and reliability.

2.9.1 XYZ three-axis positioning, 100 sample positions, high-precision liquid injection pump

2.9.2 With sample dilution function, sample original solution can be automatically and continuously diluted into 8 samples of different concentrations.

2.9.3 Automatic continuous sampling, automatic injection of trigger chromatograph, and automatic sampler for spectrum collection. This product is used in conjunction with ion chromatography.

2.9.4 It can automatically complete pipeline cleaning, bubble emptying, sample injection, and post-injection cleaning, effectively improving work efficiency. , encoder real-time feedback comparison, the instrument runs more accurately

2.9.5 High degree of automation, unattended, 24-hour uninterrupted work. 100 sample positions fully meet users' needs for large sample volumes. High-precision syringe pump, high total quantitative accuracy, high quantitative flexibility, and the sampling volume can be set freely

3. Characteristics of chromatography software

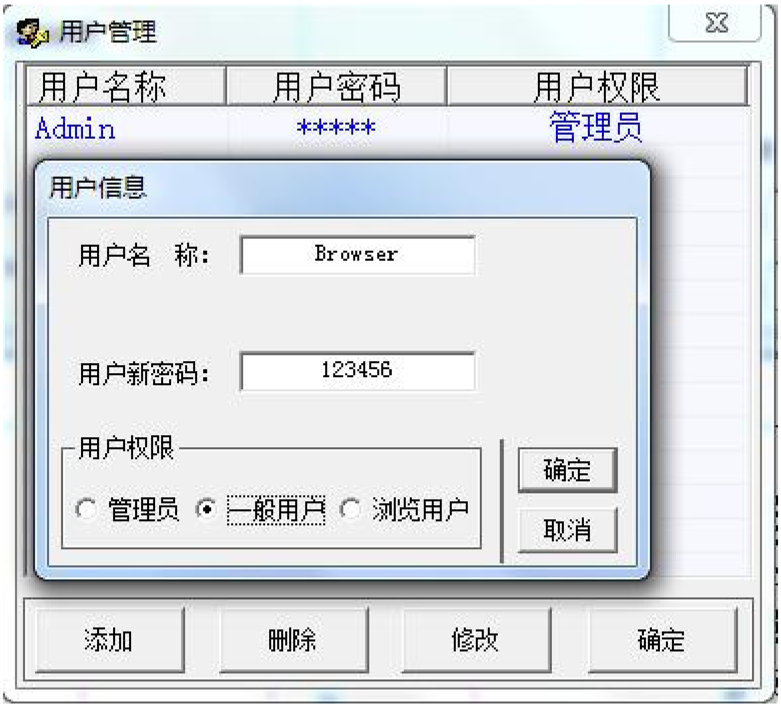
3.1 Use multi-threading technology to realize signal collection, data processing and user input to work together.

3.2 Using multi-document technology, multiple document windows can be opened at the same time and the windows are independent of each other. Each window corresponds to a signal channel, which allows one window to collect signals in real time while another window performs spectrum post-processing.

3.3 The interface is simple and compact in layout, enabling intuitive operation. You can master human-machine dialogue in a short time, making it easy to use.

3.4 The program runs stably, minimizing the possibility of delaying sample analysis due to crashes.

3.5 In order to improve data reliability, the user management function has been strengthened. Users are divided into three levels and given different operating permissions.



用户名称	用户密码	用户权限
Admin	*****	管理员

用户名　称: Browser

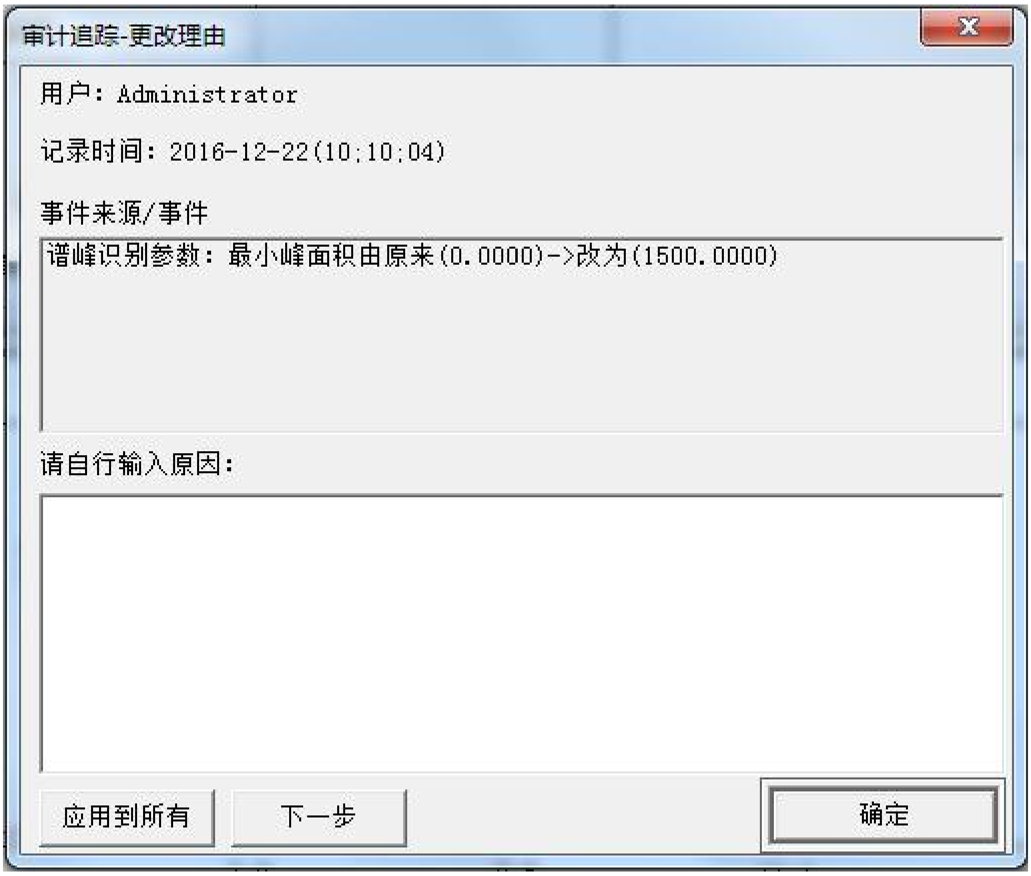
用户新密码: 123456

用户权限

○ 管理员 ● 一般用户 ○ 浏览用户

3.6 Can open and save CDF files that comply with AIA (American Institute of Analysis) standards, thereby integrating with chromatography workstations such as Agilent and Waters.

3.7 Supports GLP/GMP specifications and complies with the requirements of FDA 21 CFR Part 11 regulations. It can be equipped with an optional audit tracking function to maintain the change history and reasons for confirming instrument parameters, etc., so the entire process can be tracked.



审计追踪-更改理由

用户：Administrator

记录时间：2016-12-22(10:10:04)

事件来源/事件

谱峰识别参数：最小峰面积由原来(0.0000)->改为(1500.0000)

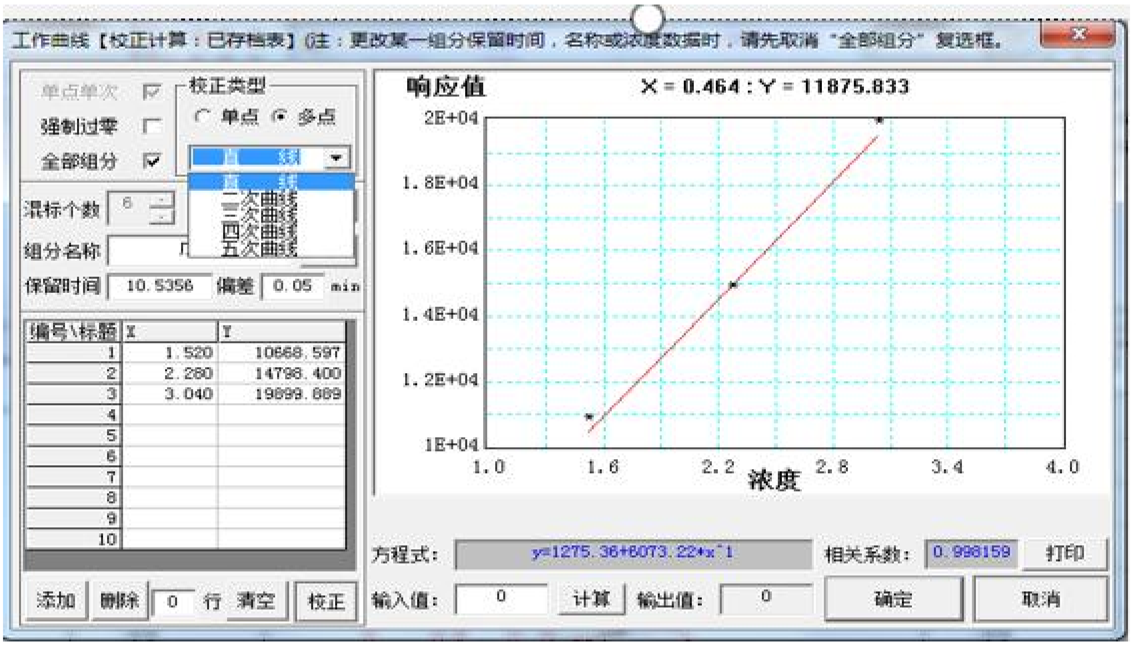
请自行输入原因：

3.8 It adopts a unique digital filtering algorithm and has strong anti-noise interference ability.

3.9 Intelligent spectrum peak identification technology minimizes user intervention and automatically implements peak identification, overlapping peak segmentation, area integration and other processing.

3.10 It has a powerful manual integration function, which can realize operations such as adding peaks, deleting peaks, merging peaks, and flipping peaks, and handles complex spectra.

3.11 Realize various complex quantitative calculations, such as internal standard method (single and multiple internal standards are acceptable), external standard method, normalization method, correction normalization method, external standard normalization method, index method and other quantitative methods.



工作曲线【校正计算：已存档表】(注：更改某一组分保留时间，名称或浓度数据时，请先取消"全部组分"复选框。

校正类型：● 多点　直线

保留时间 10.5356　偏差 0.05 min

编号\标题	X	Y
1	1.520	10668.597
2	2.280	14798.400
3	3.040	19899.889
4		
5		
6		
7		
8		
9		
10		

X = 0.464 : Y = 11875.833

方程式：y=1275.36+6073.22*x^1

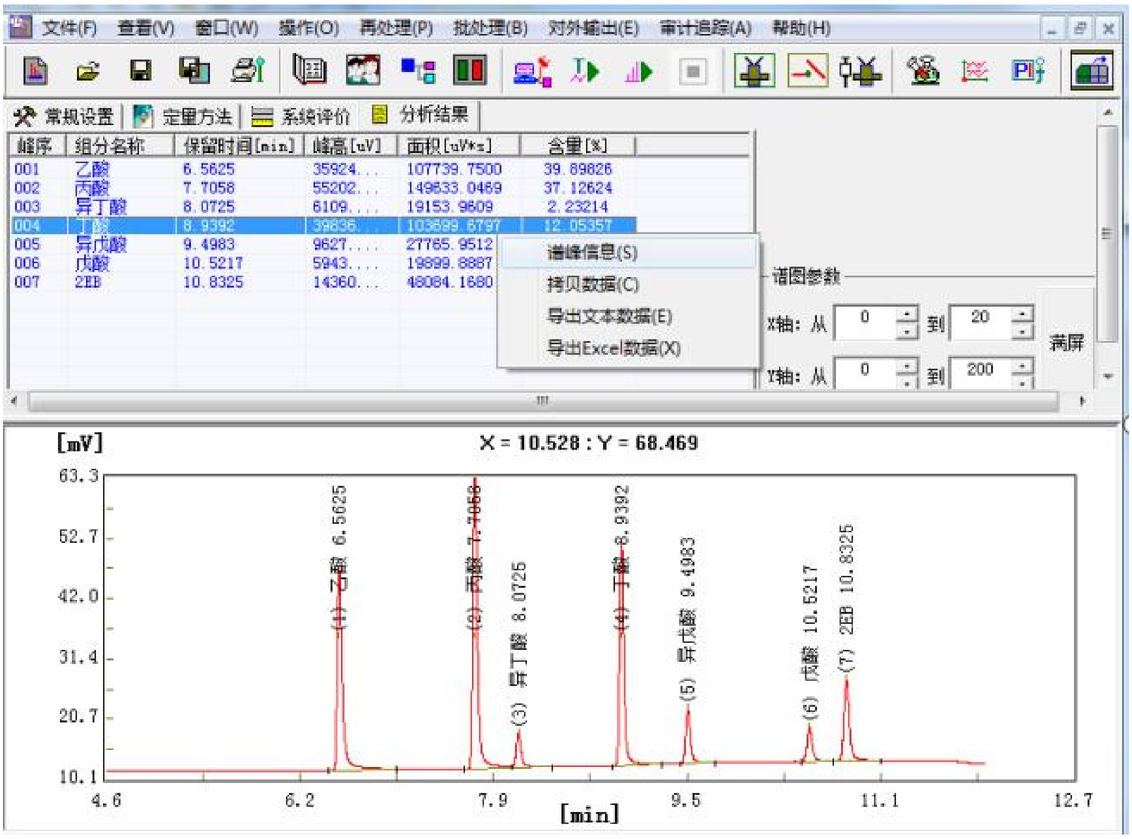
相关系数：0.998159

输入值：0　输出值：0

单点单次
强制过零
全部组分
单点
多点
直线
二次曲线
三次曲线
四次曲线
五次曲线
混标个数
组分名称
响应值
2E+04
1.8E+04
1.6E+04
1.4E+04
1.2E+04
1E+04
1.0
1.6
2.2
浓度
2.8
3.4
4.0
添加
删除
行
清空
校正
计算
打印
确定
取消

3.12 It can calculate baseline noise, drift, chromatography column plate number, resolution, tailing factor, capacity factor and other chromatography indicators in real time.

3.13 Quantitative results can be output to Excel or text files or copied directly to the clipboard.



峰序	组分名称	保留时间[min]	峰高[uV]	面积[uV*s]	含量[%]
001	乙酸	6.5625	35924...	107739.7500	39.89826
002	丙酸	7.7058	55202...	149633.0469	37.12624
003	异丁酸	8.0725	6109....	19153.9609	2.23214
004	丁酸	8.9392	39836...	103699.6797	12.05357
005	异戊酸	9.4983	9627....	27765.9512	
006	戊酸	10.5217	5943....	19899.8887	
007	2EB	10.8325	14360...	48084.1680	

X = 10.528 : Y = 68.469

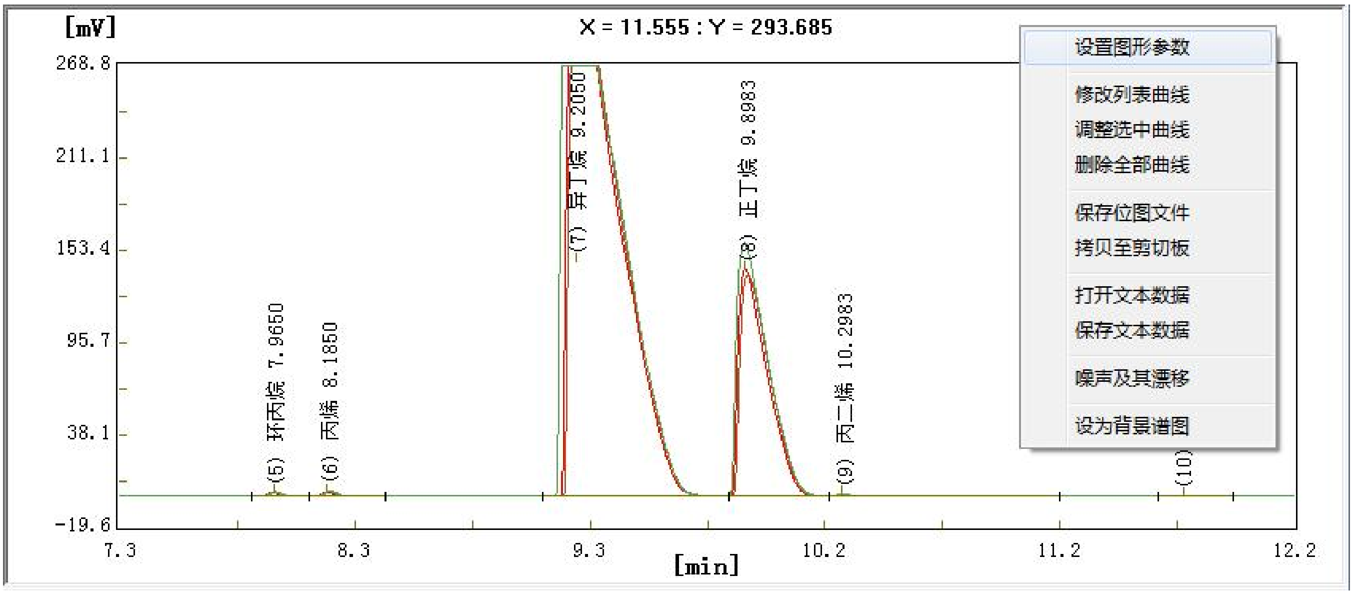
文件(F)
查看(V)
窗口(W)
操作(O)
再处理(P)
批处理(B)
对外输出(E)
审计追踪(A)
帮助(H)
常规设置
定量方法
系统评价
分析结果
谱峰信息(S)
拷贝数据(C)
导出文本数据(E)
导出Excel数据(X)
谱图参数
X轴：从 0 到 20
Y轴：从 0 到 200
满屏
[mV]
63.3
52.7
42.0
31.4
20.7
10.1
4.6
6.2
7.9
[min]
9.5
11.1
12.7
(1) 乙酸 6.5625
(2) 丙酸 7.7058
(3) 异丁酸 8.0725
(4) 丁酸 8.9392
(5) 异戊酸 9.4983
(6) 戊酸 10.5217
(7) 2EB 10.8325

3.14 It can be operated continuously, and the whole process from spectrum collection to quantitative analysis can be realized by just pressing the remote button.

3.15 Real-time exchange of dual-channel spectral data can be realized (the signals from dual detectors are integrated into one spectrum), and the signals are aligned (to eliminate baseline steps caused by range switching or column switching).

3.16 Flexible production of working curves, and the ability to manually add and clear data.

3.17 Multiple chromatograms can be superimposed and displayed. The spectrum display area can be adjusted at will to zoom in and out. You can also change the color of the background, curves, etc., and adjust the selected curve up, down, left, and right to compare the differences in the spectra.


[mV]
X = 11.555 : Y = 293.685
268.8
211.1
153.4
95.7
38.1
-19.6
7.3
8.3
9.3
10.2
11.2
12.2
[min]
(5) 环丙烷 7.9650
(6) 丙烯 8.1850
(7) 异丁烷 9.2050
(8) 正丁烷 9.8983
(9) 丙二烯 10.2983
(10)
设置图形参数
修改列表曲线
调整选中曲线
删除全部曲线
保存位图文件
拷贝至剪切板
打开文本数据
保存文本数据
噪声及其漂移
设为背景谱图

3.18 The report format can be edited flexibly and freely, and can be saved as a template, with built-in memory function.

3.19 You can use addition, subtraction, multiplication, differentiation, grouping and other calculation functions to analyze the spectrum in detail.

3.20 Save method templates and perform batch processing of multiple spectral data to save user workload and improve work efficiency.