

**Software UniChrom to unify work
with different analytical equipments
from different vendors**

There is the following situation in the researches laboratories: very heterogeneous park of analytical equipments

From different Vendors

Gas chromatographs



Liquid chromatographs



**Spectrometers
UV, IR, Vis, AES, AAS, MS**



Device model	Vendor	Software name
Agilent (HP) -USA	Agilent (Hewlett-Packard)	ChemStation
Varian - USA	Varian	Star WorkStation / Galaxy
Perkin-Elmer - USA	Perkin-Elmer	TurboChrom / TotalChrom
Shimadzu GC17/2010 -Japan	Shimadzu	GC Solution / Class VP
Crystall 2000M/5000 -Russia	JS «Chromatek»	Chromatec-Analytic
Crystalluks 4000 Russia	JS «Metachrom»	NetChrom
Tswett-800	Tswett Ltd.	Tswett-Chrom
MiLiChrom-5	JS «Nauchpribor»	E-Chrom
MiLiChrom A-02	JS «EcoNova»	M-Chrom
ThermoFinnigan Trace2000/Focus	Scientific Software	EZChrom / Xcalibur

The analogue situation was about 30 years ago.

There were many text processor packages in Laboratories.

Demand to free migration of text documents between different computers has generated the following situation:



























































- the computers may be different but the text processor software Microsoft Word is the same in the most offices computers over the world.

All devices are controlled in unified style

UniChrom™ - driver installer and configuration editor

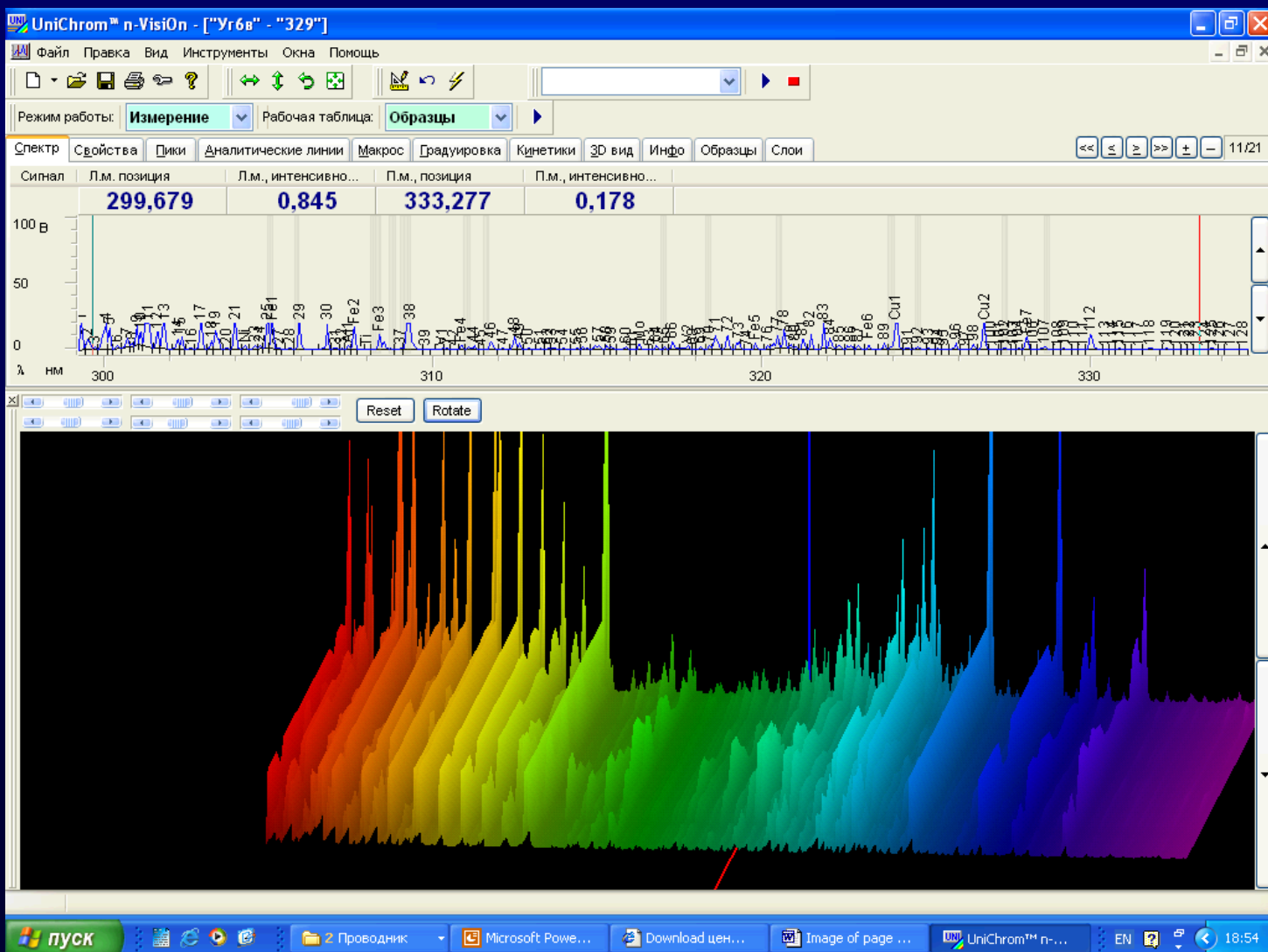
File Edit

For driver installation just drag with the mouse Instrument icon from the "Available section" (at the right) to "Installed" section (at the left). For driver Removal drag the Instrument icon from the "Installed devices" section to the "Available" instruments. Instrument settings is done in Settings Dialog on double click on Instrument icon in left section.

Installed devices	Available for installation
 Agilent 7890.Agile...  Cluster.Cluster	 Acme-6000 (acm6k.inf)  Agilent 7890 (ag7890.inf)  Aquilon ADC (AquilADC.inf)  Chromat-900 (chromat9.inf)  Cluster (hplcc.inf)  Counter (counter.inf)  E-24 (e24.inf)  EMCES (emces.inf)  Fluorat-02-02M (flu02.inf)
 GC20.GC20  Trace-2000...	 GC17A-2 (gc17a2.inf)  GC20 (gc20.inf)  GC-Sim (gcstub.inf)  HP5890 (hp5890.inf)  HP6890N (hp6890.inf)  K-2xxx (k2.inf)  Kapel (kapel.inf)  Lambda-1010 (lambda.inf)  LNet (lnet.inf)
 Varian cp3800.Vari...  Кристалл-5...	 LNetI (LNetI.inf)  LNetI-800+ (lnet800.inf)  LNet-X new (lnetx.inf)  LZI (lzi.inf)  MLC-16 (mlc16.inf)  MSS-ADC (mssadc.inf)  OxyText (oxy.inf)  PeriChrom PR2100 ...  PLC-24 (plc.inf)
	 Polaron-32 (polaron.inf)  Riftek (riftek.inf)  Solar AP-2110 (ap2110.inf)  SoundBlaster (sbwin32.inf)  Trace-2000 (trace2k.inf)  Varian cp3800 (cp3800.inf)  Z-Lab (zlab.inf)  АПК-02 (adc2.inf)  Кристалл-2... (cr2000m.inf)
	 Кристалл-5... (cr5000.inf)  Кристалл-P... (cr5000p.inf)  КристалЛю... (cr4000.inf)  ЛГХ-3000 (lgs3000.inf)  ЛХМ-2000 (lcm2000.inf)  Марафон-II (marathon2.inf)  МилиХром (milichrom.inf)  МиЛиХром... (mlca02.inf)  Стайер (marathon.inf)
	 Стайер-Grad2 (stayerg.inf)  Стайер-ISO (stayeri.inf)  СтайерКД (stayercd.inf)  Хромос  ГХ-1000 [...]  Цвет-800+ (c800.inf)  Яуса (yausa.inf)

Different UV, IR, AAS and AES

UniChrom – AES



Distinctives of Unichrom

The screenshot displays the NAS UniChrom V software interface, which is used for gas chromatography data analysis. The interface is divided into several sections:

- Instrument Parameters:** A central panel shows various instrument settings for the GC Instrument. Parameters include Oven Temp (50.0), Inj1 Carr (0.0), Inj1 Split (20.0), Inj2 Carr (0.0), Inj2 Split (20.0), Det2 Temp (240.0), PID Temp (150.0), PID Gain (0.0), and Events List (0.0).
- Temperature Profile:** A graph on the right shows the oven temperature profile over time, starting at 50.0, ramping up to 200.0, and then holding constant.
- Method Configuration:** A section titled "Object: Chromatograph / Oven / Temperature" shows the chosen mode: "4 - ГОСТ 23781 - 5 изо - прорг". It includes a tree view of the method structure and a table of parameters.
- Method Table:** A table titled "Programme: 40 min" lists the temperature program steps:

Rate	Value	Interval
1	0	5
2	10	220
3		18
- Chromatogram:** A large plot at the bottom shows the chromatogram with peaks labeled with chemical names and their retention times. The x-axis is labeled "s" and ranges from 0 to 2000. The y-axis is labeled "0.2".
- Library:** A small window on the right shows a library search result for "Fragm.dY" with a value of "0,7093".
- Navigation and Tools:** The top of the interface features a menu bar (File, Edit, View, Tools, Windows, Help) and a toolbar with various icons for file operations and analysis.

Abstract representation of the method focused the Analyst to analytical details instead of instrument peculiarities

Quality control of **Spirit Drinks**. Thousands food control laboratories: over the world, day-and-night, there are many different analytical equipments but the software may be the same.

UniChrom - проверка системы - Windows Internet Explorer

http://unichrom.com/vodka/ethanol-solutionr.shtml

Использование основного компонента (этанола) в качестве внутреннего стандарта

В файле [Toxic impurities in vodka after GOST 51698 - Ethanol as Internal St - Description - rus.pdf](#) представлено описание применения системы UniChrom для выполнения методики газохроматографического определения токсичных микропримесей в водке и спирте этиловом по ГОСТ 51698 с использованием основного компонента (этанола) в качестве внутреннего стандарта.

Файлы [Toxic impurities in vodka after GOST 51698 - Ethanol as IS - rus.uwb](#) и [Toxic impurities in vodka after GOST 51698 - Ethanol as IS - eng.uwb](#) представляют собой шаблоны выполнения методики газохроматографического определения токсичных микропримесей в водке и спирте этиловом по ГОСТ 51698 с использованием основного компонента (этанола) в качестве внутреннего стандарта. Шаблоны содержат пакеты градуировочных хроматограм стандартных водно-спиртовых растворов ГСО 8404-2003 (PC-1, PC-2, PC-3) и ГСО 8405-2003 (PB-1, PB-2, PB-3), примеры выполнения измерений токсичных микропримесей в водке и спирте этиловом. Закладки «Калькулятор» содержат необходимые расчеты контроля сходимости и контроля погрешности с соответствию с ГОСТ 51698. Шаблоны представлены на русском и английском языках.

Peak	Retention Time (min)	Area
1	2.36	0.0030
2	11.89	0.0032
3	10.152	0.0016

Пример расчета массовых концентраций токсичных микропримесей в водке с использованием основного компонента (этанола) в качестве внутреннего стандарта.

Интернет 100%

Free migration of methods between different instruments.

Unichrom Project Road Map

1. Certification of the software package UniChrom.
2. Development and Approval of the unified State Standard for validation different analytical equipment with UniChrom.
3. Introducing in the Accredited testing Laboratories
4. The biggest Oil Refineries
5. Food control Laboratories
6. Toxic laboratories in narco dispensaries
7. Studies and Researches Laboratories in the leading Universities
8. Participation in leading international conferences and exhibitions.
9. Ready analytical solutions and there openness
10. Openness presentation in *Internet*.



Control laboratory in JS «Nevynnomusky Azot» (Russian Federation) . **UniChrom** from one PC controls simultaneous: **Crystal-5000** (3), **Crystall-2000M** (3), **HP6890N** (1), **Tswett-800** (2), **Tswett-100** (3).

Day-and-night Unichrom is working in the following biggest petrochemical enterprises:

- **JS “Novopolotsk Oil Refinery”**,
- **JS “Mosyrskii Oil Refinery”**,
- **JS “Lisichanskii Oil Refinery”**,
- **JS “ArcelorMittal Kryviy Rih”**,
- **JS “Mogilov HIMVOLOKNO”**,
- **JS “Grodno Azot”**,
- **JS “Nevynnomuskii Azot”**,
- **JS “Schekino Azot”**,
- **JS “Cherkaskii Azot”**,
- **JS “Severodonetskii Azot”**,
- **JS “Polimir»**,
- **FSI “Siberian Chemical Enterprise” (Russia) and Busher NC (Iran).**

List of the biggest petrochemical enterprises

UniChrom (tm) GC instrument support matrix - Mozilla Firefox

Файл Правка Вид Журнал Закладки Инструменты Справка

http://www.unichrom.com/matrix-gce.shtml

МиталлСтилл-криворожсталь

View Issues ... ScholarOne ... UniChr... TUT.BY The Distiller... NABCA UC Davis: S... Издательс... The NIST 08... 123people r... Gas chroma... Gas chroma...

Categories / Chromatography / UniChrom (tm) GC instrument support matrix

Solutions: [Gas Chromatography](#) [Liquid Chromatography](#) [Capillary Electrophoresis](#) [ADC for Chromatography](#) [Addition](#)

Applications fields: [UniChrom](#) [Restek Products](#) [Product Support](#) [Download](#)

The unified approach to GC instrument control makes the understanding your system easy and clear. Graphical representation of system components like detectors and detectors either as chromatography aspects, the optimal chromatography conditions make the system easy to control and fit your needs.

Set of different GC instrument parameters is collected in a single "Mode" and each method can easily employ different mode for every chromatography in batch.

UNICHROM - SUPPORTED GAS CHROMATOGRAPHIC INSTRUMENTS

Agilent 7890a.
 Producer: Agilent Technologies. UniChrom supports 7890 instruments with automated liquid samplers. Simply the best in the world.

Agilent/HP-6890, 6890 Plus, 6890N, Agilent 6890.
 Producer: Agilent Technologies. UniChrom supports all the family of 6890, 6890 instruments with 7673 and 7683 automated liquid samplers. Simply the best in the world.

Agilent/HP-6890, HP-6890A, HP-6890 Series II, HP-4890D.
 Producer: Agilent Technologies, Hewlett-Packard. Well known GC instruments which often is mentioned as key tone of computer chromatography. Still works in many laboratories.

Shimadzu GC-2010.
 Producer: Shimadzu Inc. Honorable response to the competitor, Baazal. Up to 9 atmosphere at column inlet. Japanese quality.

Shimadzu GC-17A.
 Producer: Shimadzu Inc. Simple and robust workhorse for laboratory. Since instrument does not have its own built-in ADC, the choice of it is less attractive. We support these instruments thru our ADC LIBNET, which gives the GC-17A wide range measuring capability for ionization detector.

Crystal-2000.1
 Producer: JSC Chromatic. The new generation chromatograph. Simply the best in Russian market. With its characteristics comparison with PE Clarus, AutoSystem XL, Thermo FluoTag. [Trace 2000](#). Right price / performance ratio.

Crystal-2000.2
 Producer: JSC Chromatic. Compact gas chromatograph built upon Crystal-2000.1 platform with the set of improvements and new features.

Crystal-2000M.
 Producer: JSC Chromatic. Gas chromatograph with automated liquid sampler. Suitable for most types of analysis. Full UniChrom control. Simply the best in Russia. Now it is preceded by newer model [Crystal-2000M](#).

Varian cp-3800
 Producer: Varian Inc. Full instrument control except configuration editing (easy done from instrument keyboard).

Trace 2000
 Producer: Thermo FluoTag Inc. Among the top GC of the world but [Crystal-2000](#) is better. Electronic flow pressure controller (DPFC - dynamic P/F controller).

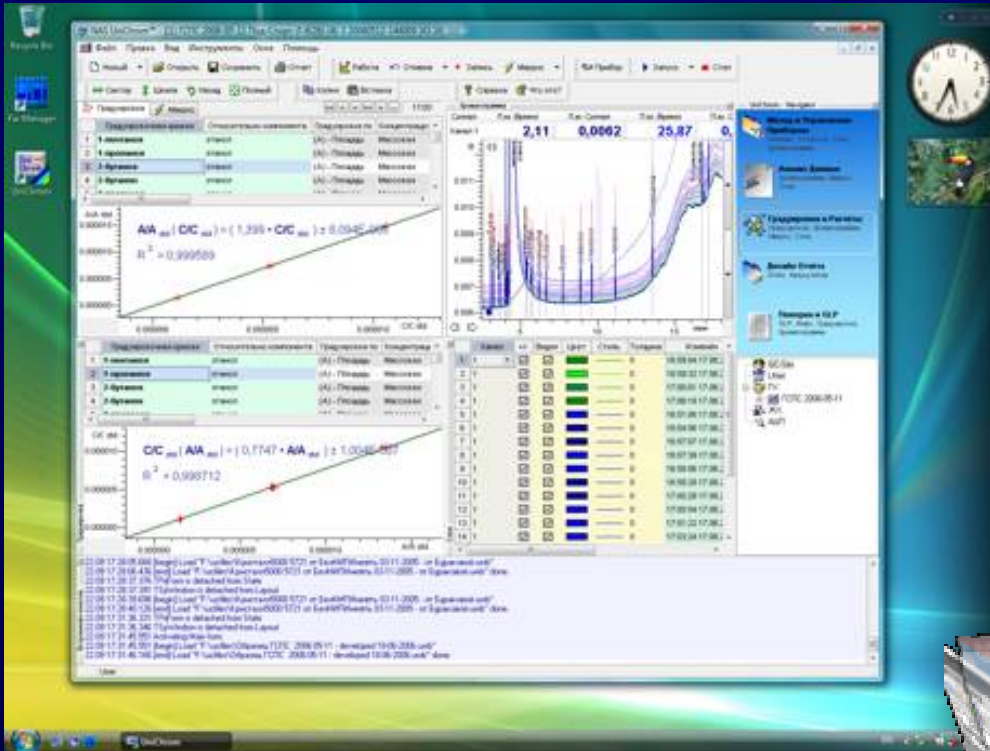
Crystal-4000
 Producer: JSC Chromatic and JSC (Meta-Chrom). Simple chromatograph with electronic temperature and flow controller. UniChrom driver supports full control of this instrument, and also ramped programs for all temperature zones and all flow pressure controllers. The only advantage - its price. Its tasks can be compensated by personal qualification.

Any gas chromatograph with analogue output or **directly** from detector.
 Virtually any GC instrument can be connected to computer with the help of ADC [LIBNET](#).

GC-Sim. Gas chromatograph simulator. Just training driver. Download UniChrom, install GC-Sim and enjoy the learning process.

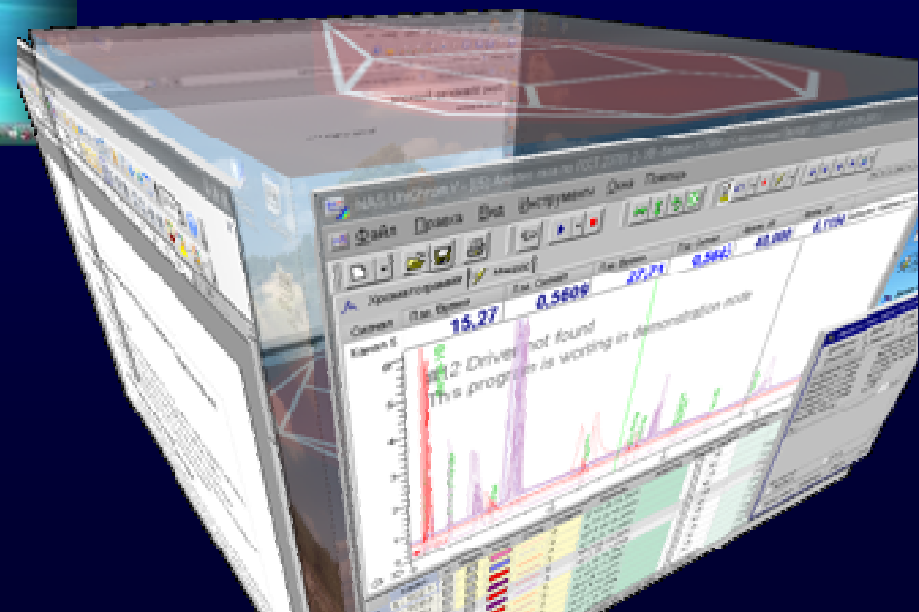
Download Center is opened Day-and-Night

Unified style for different operation systems



Windows Vista 32bit

Debian GNU/Linux



Results:

Certification in Belarus, Russia and Ukraine

Day-and-Night service at the biggest petrochemical enterprises:

JS “Novopolotsk Oil Refinery”, J “Mosyrskii Oil Refinery”, JS “Lisichanskii Oil Refinery”, JS “ArcelorMittal Kryviy Rih”, JS “Mogilov HIMVOLOKNO”, JS “Grodno Azot”, JS “Nevynnomuskii Azot”, JS “Shchekino Azot”, JS “Severodonetskii Azot”, JS “Polimir”, Federal State Int “Siberian Chemical Enterprise” (Russia) and Busher NC (Iran).

More than 1 million **alcohol in blood analysis (very social important)** have been done using Unichrom in Belarus and in the city of Moscow.

There is Device Development Kit (DDK) on the site www.unichrom.com. So independent researches can develop drivers for new analytical devices independently.

Software package *UniChrom* is proposed for High Schools on free charge basis.

Plans:

To expand park of new analytical devices under control of Unichrom.

Total support of modern multidimensional detectors (UV/Vis DAD, GC/MS, GC x GC)

To supply modern Laboratory Information Management Systems (LIMS) with genetic plane texts **E-Lab**

Installation with local market language: Chinese or Korean

UniChrom (1) 没有名字

文件 编辑 视图 工具 视窗 帮助

气相色谱仪 信号 图层 色谱图

对象: 色谱仪 / 烤箱 / 温度

参数表:

参数	数值
1 方法名	没有名字
2 色谱层名	
3 方法文件名	
4 通道	1
5 测量通道数	1
6 层数	1
7 活动层	1
8 测量开始	0
9 测量结束	10
10 测量频率, 赫兹	0,016666666666667
11 列保持时间	0
12 启用RangeMode	(0)-关
13 RangeMode系数	170
14 工具栏	(offline)
15 工具栏	
16 探测器信号的极性	+
17 最后修改的时间	17:58:22
18 最后修改的日期	22 nicranada 2010
19 群组0	
20 过滤模式	(0)-关
21 滤波器孔径	0
22 时间单位	(0) - 分钟
23 幅度单位	(0) - V
24 浓度单位	%
25 方法类型	气相色谱仪
26 列长度, 米	30
27 立柱内径, 毫米	0,25
28 脚本名称	
29 进样量	1
30 样品的溶剂量	1
31 样品的质量	1
32 输入的标准量	1
33 层保护	0

烤箱 蒸发器1 蒸发器2

温度 温度 气体载 复位 分隔 温度 气体载 复位 分

0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0

程序: 0 分钟

速率	数值	间隔
1		

参数值: 当前值: 0 设定值: 0 最小值: 0 最大值: 0 准备程度: ± 0

处理 "%s"

&程序库 &计算 &报告 方法

&消除 &搜索峰值 编 &辑峰值

主要参数

峰值的最小半值宽度 0,01 分钟

最小面积 0,01 mV·分钟

最大噪声电平 0,001 mV

未定义峰值数 1

搜索选项

删除峰值 修正范围

在哪里搜索峰值

碎片 频谱

记录 &应用 &关闭 &帮助

1. 方法和仪器控制 信号, 属性, 图层, 色谱图

2. 数据分析 图层, 色谱图, 宏, 峰值

3. 定标和计算 定标, 色谱图, 宏, 图层

4. 报表设计 报告, 计算器

5. 验证和GLP GLP, 定标, 色谱图

E-24 GC-Sim Кристалл-5000 Solar TII Monochromator Cluster Acme-6000 MSD SMA PV-1251 Trace-2000 Agilent 7890 HP5890 МилиХром K-xxxx HP6890N Цвет-800+ MetaChrom-ADC NeoCHROM 气相色谱 没有名字 液相色谱 模/数转换器(ADC)

Anton {P:\ulinxg} - Far 2.0... UniChrom EN 18:04

Installation with local market language: Chinese or Korean

ppm-608b-unicode-chinese-formulae-new-double-wo report-zz.uwb" - (7) PPM-608B --- смесь А+В

文件 编辑 视图 工具 视窗 帮助

控制窗口 信号 图层 色谱图

通道 7 左光标, 时间 1392,00 左光标, 信号 0,0595 右光标, 时间 1796,16 右光标, 信号 0,0603 碎片dX 0,3485 碎片dY 2400,000

程序库: %s第1层的组件:

Chromatogram showing peaks for various pesticides and herbicides. The x-axis is time in seconds (s) from 0 to 2000. The y-axis is signal intensity in nA from 0 to 0,35. Major peaks are labeled with their names in Greek and Chinese.

名称	t _s	A _p ,pA's	H _p ,pA	面积	C _i %	质量 %	摩尔 %	滴定度 r/n	克分子...	系数	群组指数	保留指数	色彩	M, a.m.u	沸点, °C	Плотност...	t _i ,s
Ελληνικός Επιστολαικός	295,200	503,05266	120,11876	<input checked="" type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	288,80000
alpha-BHC	419,360	433,15615	99,99496	<input checked="" type="checkbox"/>	250,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	413,92000
gamma-BHC(Lindan)	498,240	394,23770	87,52153	<input checked="" type="checkbox"/>	180,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	492,96000
beta-BHC	510,880	170,37286	50,46210	<input checked="" type="checkbox"/>	250,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	506,88000
Heptachlor	565,920	381,46569	86,33892	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	556,32000
孔恩格芬古柏	588,000	448,20437	117,89918	<input checked="" type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	581,92000
Aldrin	635,040	549,67475	119,41516	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	627,04000
Heptachlor epoxide	752,960	523,96618	142,66984	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	740,48000
gamma-Chlordane	786,880	513,56855	139,40085	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	780,64000
alpha-Chlordane	820,480	464,55473	123,34549	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	814,72000
Endosulfan I	827,200	505,29731	116,71827	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	823,52000
4,4'-DDE	874,880	994,21851	235,24999	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	868,00000
Dieldrin	892,000	987,12616	205,99022	<input type="checkbox"/>	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	0,00000	0,00000		0,00000	0,00000	0,00000	885,44000

Anton

start {P:\linuxg} - Far 2.0... (1) 没有名字 "ppm-608b-unicode-c...

EN 18:08

W2k3 [Running] - Oracl... [Файлы вандроўнік ... KCalc

Right Ctrl