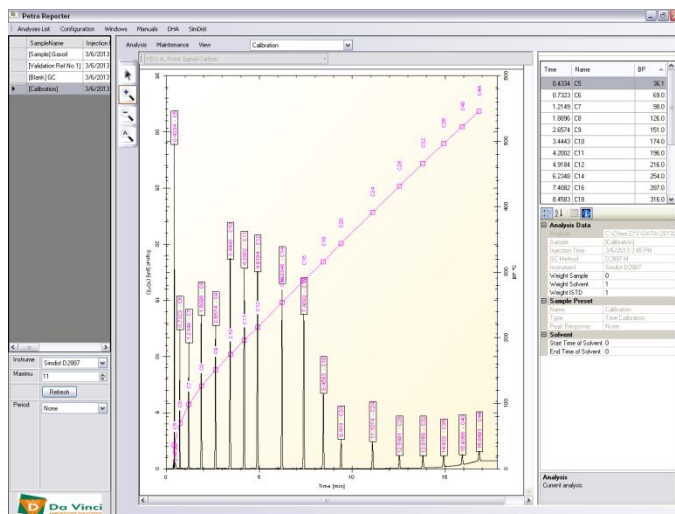


An introduction to DVLS PetroReporter® software



PetroReporter

PetroReporter automates the data processing of various sample types:



- SimDist, DHA and Gas applications, all within the same program
- Includes Standard (ASTM, IP, GPA etc.) databases and formulas
- Includes predefined methods (presets)
- Allows analysis-based customization
- Compatible with multiple data platforms (CDS)
- Available as stand-alone or network (C/S) application

CDS - PetroReporter Compatibility

- Agilent ChemStation
- Agilent EZChrom Elite
- Agilent OpenLab ChemStation
- Agilent OpenLab EZchrom

Simdist / DHA applications

Da Vinci participates in both ASTM and CEN, to follow international regulations and develop new methods where necessary.

SimDist		DHA
ASTM D2887	IP 406	ASTM D5134
ASTM D3710	IP 480	ASTM D6729
ASTM D5442	IP 507	ASTM D6730
ASTM D6352	IP 545	ASTM D6733
ASTM D7096	EN 15199-1/2/3	
ASTM D7169	DIN 51.435	
ASTM D7213	IP 601	
ASTM D7500		

Simdist / DHA Report Options

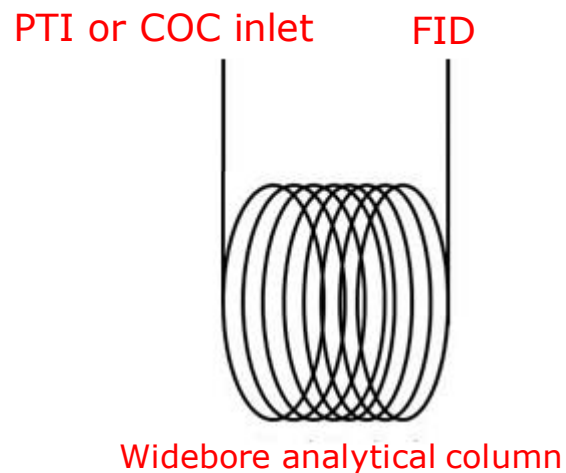
SimDist	DHA
Boiling point distribution (°C/°F)	PNA, NPIPNA, PIONAX: mass%, vol%, mole%
Cutpoints	Individual hydrocarbons
Validation report for known samples	True boiling point (°C/°F)
Volume correlation for customizable (ASTM D86, D86/STP 577, D1160)	Reid vapor pressure
Flashpoint correlation (D93, D56, D3984)	Specific gravity
Motor oil volatility (D6417)	Heating values
Noack evaporation loss (DIN 51.581)	Octane number
Wax content (D5442)	Bromine number
Crude oil DHA merge	Export to *.CSV, *.PDF or *.XLS
Export to *.CSV, *.PDF or *.XLS	

SimDist Application

- Determines
 - Boiling point range (IBP – FBP)
 - BP distribution yield (mass%)
- Purpose
 - Used for optimizing distillation process parameters
 - Used for quality control of refinery streams
 - Measures cross-contaminations
- Market Area
 - Refinery laboratories
 - Independent laboratories
 - Chemical plants (consumes naphtha for plastics)

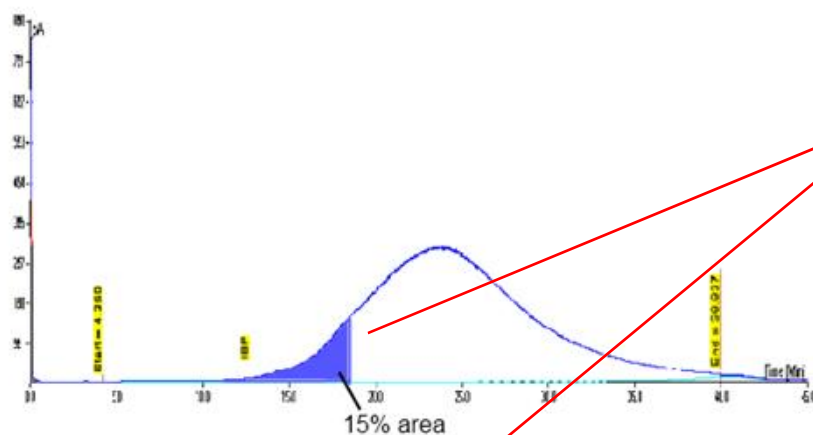
Hardware

- No sample split
- Standard column and detector
- Autosampler injection
- Non-polar column
- Inlet and oven temperature ramping
- Relatively high temperatures (350-430 °C)

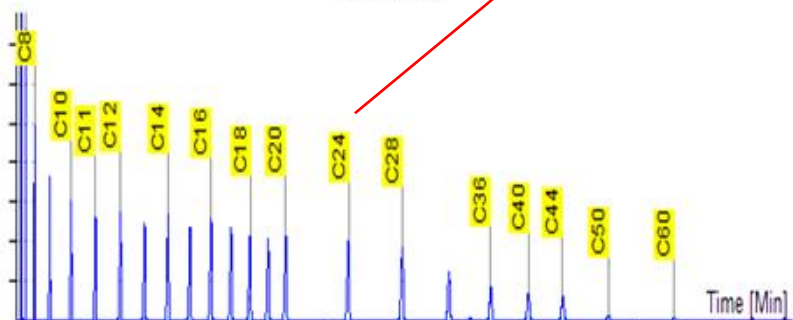


Background

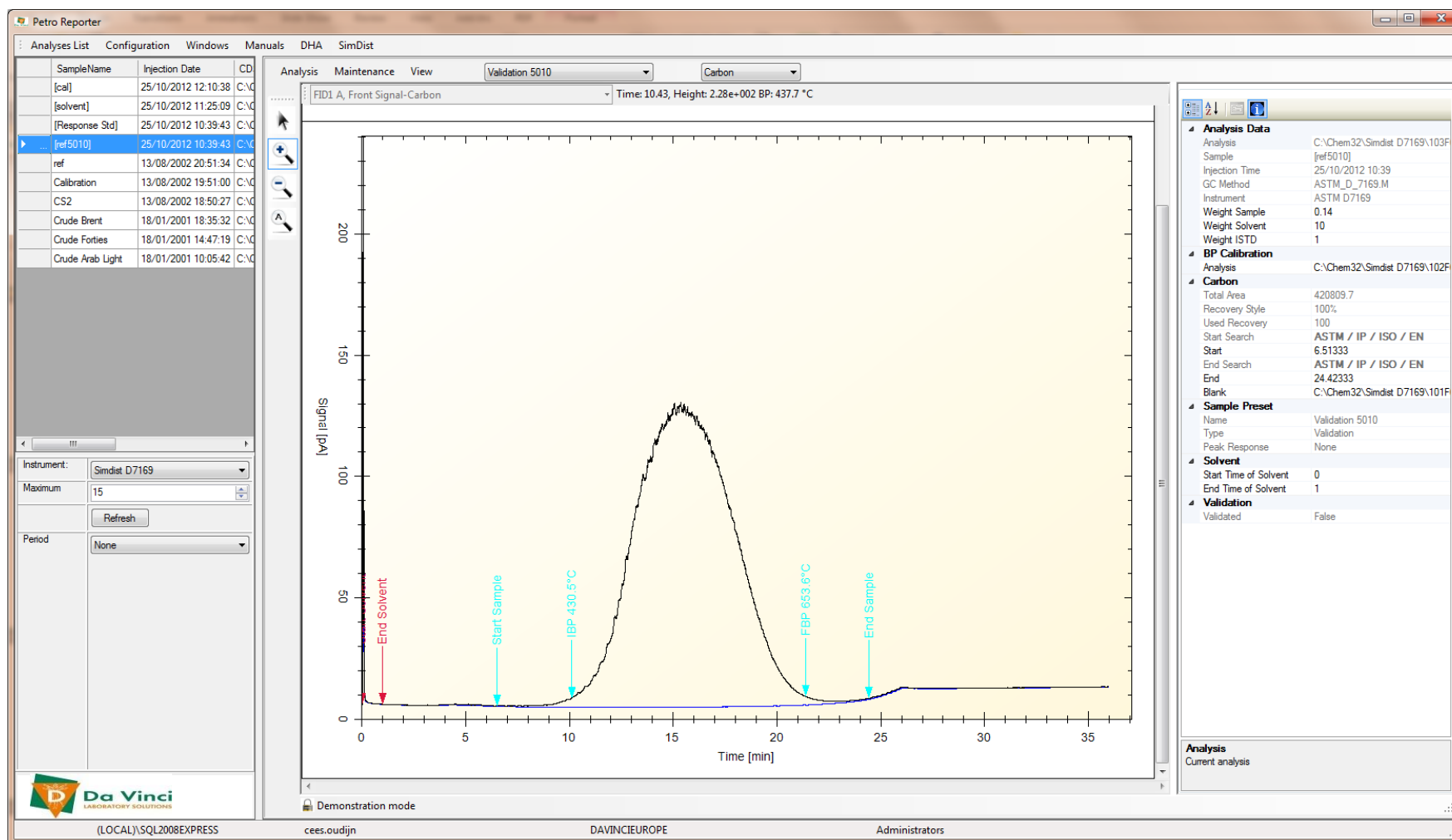
- Sample area is calculated after blank subtraction
- Sample area is divided into segments (e.g. 15%)
- Segment boiling point is calculated using n-paraffin elution times
- IBP and FBP is defined as 0.5% and 99.5% of total area



15% of the sample eluted at the boiling point of C24 (391 °C)



PetroReporter - Main SimDist Menu



Sample list

Ingeniería Analítica
Chromatography & Spectrometry



Agilent Technologies

Channel Partner

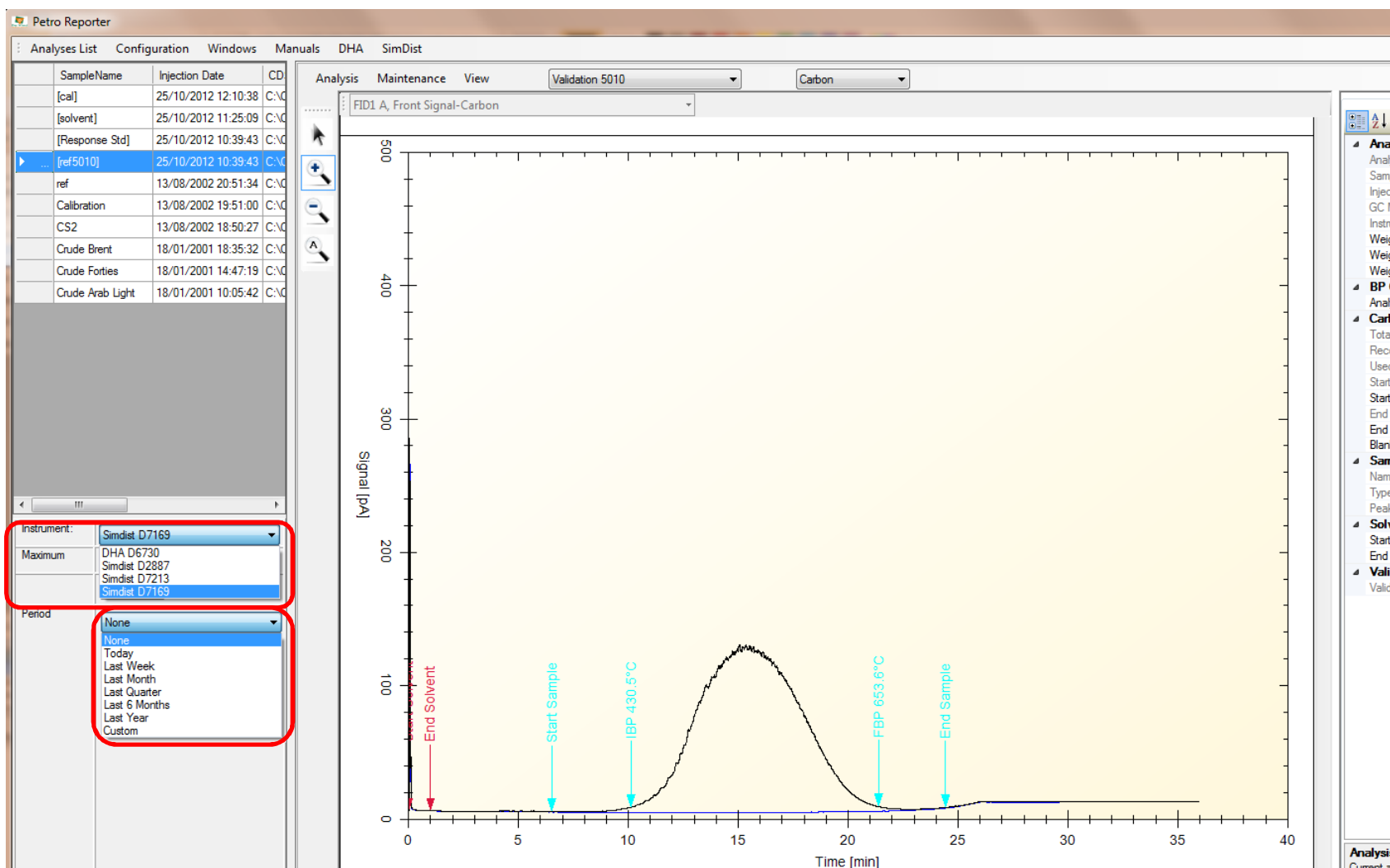
Chromatogram

Sample details

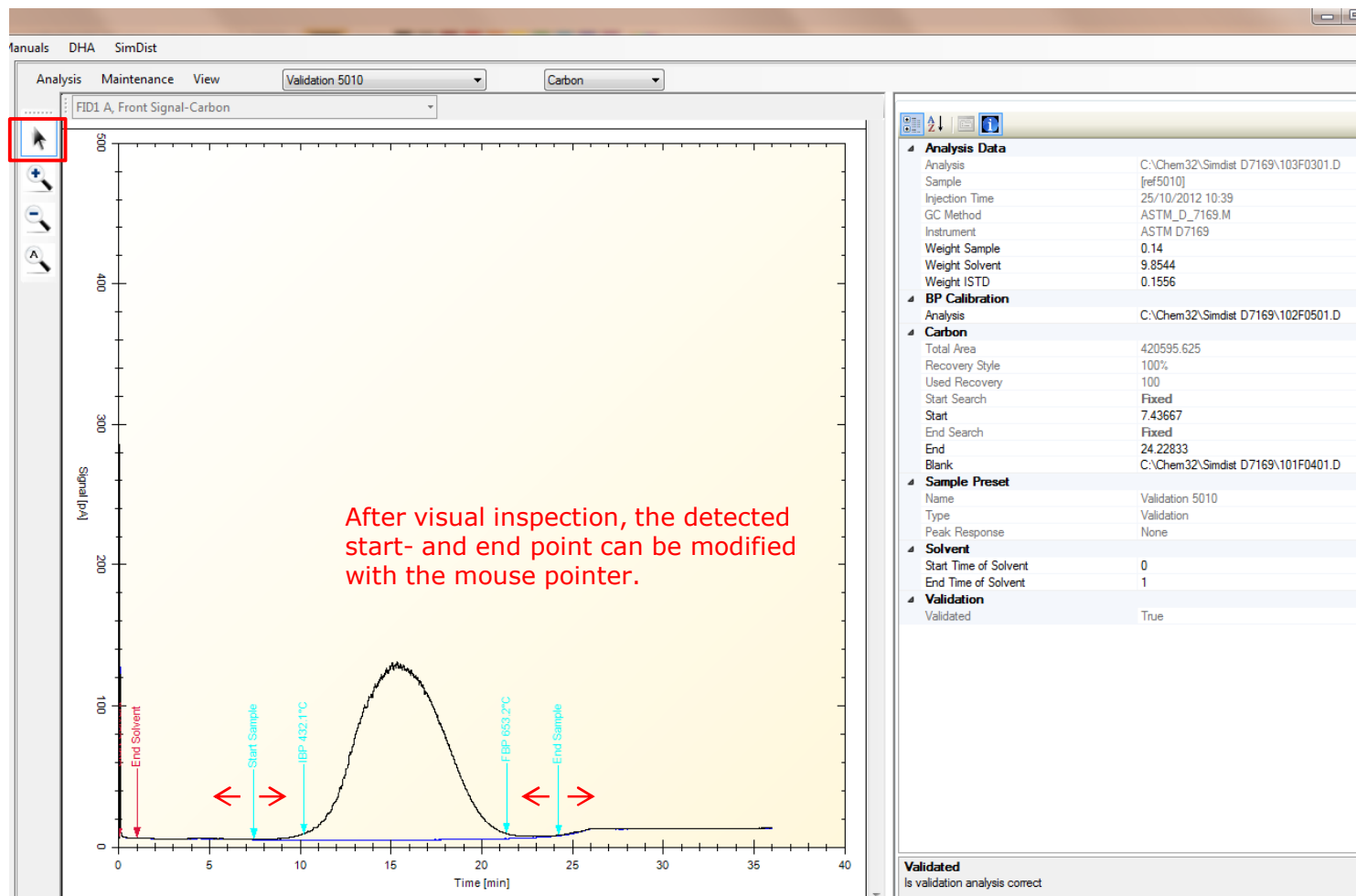


Da Vinci
LABORATORY SOLUTIONS

Instrument Selection Menu & Data Filter



SimDist Sample Details

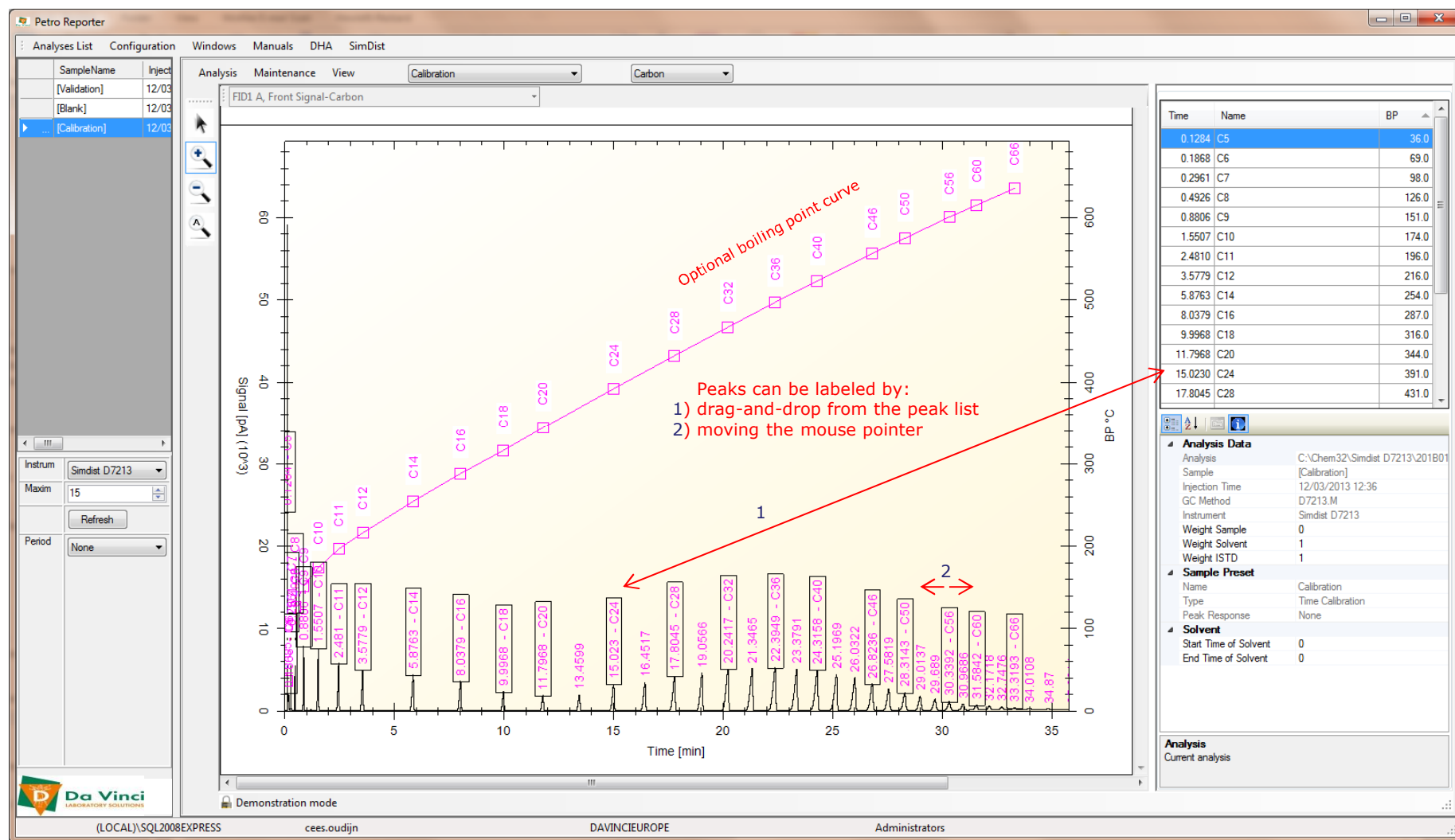


After visual inspection, the detected start- and end point can be modified with the mouse pointer.

Sample depending information

Startpoint and endpoint times can be modified after processing

SimDist Calibration



Simdist Sample Preset Editor (1)

For each Simdist application, common sample presets are created in PetroReporter

Simdist Sample Preset Editor (2)

Edit Sample Presets

Current Sample Preset: Sample Signal Type: Carbon

General Calibration **Signal Processing** General Reports Distillation Reports Other Reports Validation Report Exporting

Baseline Correction <input checked="" type="checkbox"/> Subtract Blank	Start Elution Search Location: 6.500 Minutes Search: ASTM / IP / ISO / EN	Recovery Calculation Style: ASTM D5307 Recovery [%]: 100.0000 Merge Temperature [°C]: 0.0
Solvent Correction Start Solvent Time [min]: 0.000 End Solvent Time [min]: 1.000 Quench Factor: 2.85	End Elution Search Location: 24.500 Minutes Search: ASTM / IP / ISO / EN	ISTD Information ISTD 1 BP [°C]: 254.0 ISTD 2 BP [°C]: 302.0 ISTD Conc [mass%]: 100.000

New Preset Save Type Close

Blank handling

Start/End settings

Recovery calculation

SimDist Sample Preset Editor (3)

Edit Sample Presets

Current Sample Preset: Sample Signal Type: Carbon

General Calibration Signal Processing General Reports Distillation Reports Other Reports Validation Report Exporting

TBP Distillation Percent

☒ Show Report

☒ Page Break Before

Percent Interval: 1.0

Alkane Profile

☒ Show Report

☒ Page Break Before

First Carbon: 17

Last Carbon: 44

Peak Width: 0.2

TBP Distillation Temperature

☒ Show Report

☒ Page Break Before

Boiling Point Interval: 10.0

Volume Correlation

☒ Show Report

☒ Page Break Before

Use Model: ASTM D86 Jetfuel and Diesels (D2887-6a)

New Preset Save Type Close

TBP & cutpoint
reports

Correlations & Alkane content

SimDist Sample Preset Editor (4)

The screenshot shows the 'Edit Sample Presets' window with the 'Other Reports' tab selected. The 'Current Sample Preset' is 'Sample' and the 'Signal Type' is 'Carbon'. The 'Chromatogram' section has 'Show Report' and 'Page Break Before' checked, 'Merge with Special Plot' unchecked, and X-Axis 'Automatic' checked with a step of 0.0. The Y-Axis is not automatic with a maximum of 500.0. The 'Special Reporting Options' section has 'Page Break Before', 'Flash Point' (ASTM D56 Flashpoint), 'Motor Oil Volatility (ASTM D6417)', and 'Noack Evaporation Loss (DIN 51.581)' all checked. At the bottom are 'New Preset', 'Save Type', and 'Close' buttons.

Section	Option	Value / Status
Chromatogram	Show Report	Checked
	Page Break Before	Checked
	Merge with Special Plot	Unchecked
	X-Axis Automatic	Checked
	X-Axis Step [min]	0.0
Y-Axis	Automatic	Unchecked
	Maximum	500.0
Special Reporting Options	Page Break Before	Checked
	Flash Point	ASTM D56 Flashpoint
	Motor Oil Volatility (ASTM D6417)	Checked
	Noack Evaporation Loss (DIN 51.581)	Checked

Chromatogram output

Special calculations

SimDist Sample Preset Editor (5)

Edit Sample Presets

Current Sample Preset: Sample Signal Type: Carbon

General Calibration Signal Processing General Reports Distillation Reports Other Reports Validation Report Exporting

Validation

☒ Show Report

☐ Page Break Before

	Recovery	Target [°C]	Deviation [°C]
▶	0.5	430.0	5.0
	5.0	478.0	3.0
	10.0	492.0	3.0
	20.0	510.0	3.0
	30.0	524.0	4.0
	40.0	537.0	4.0
	50.0	548.0	4.0
	60.0	560.0	4.0
	70.0	572.0	4.0
	80.0	585.0	4.0
	90.0	602.0	4.0

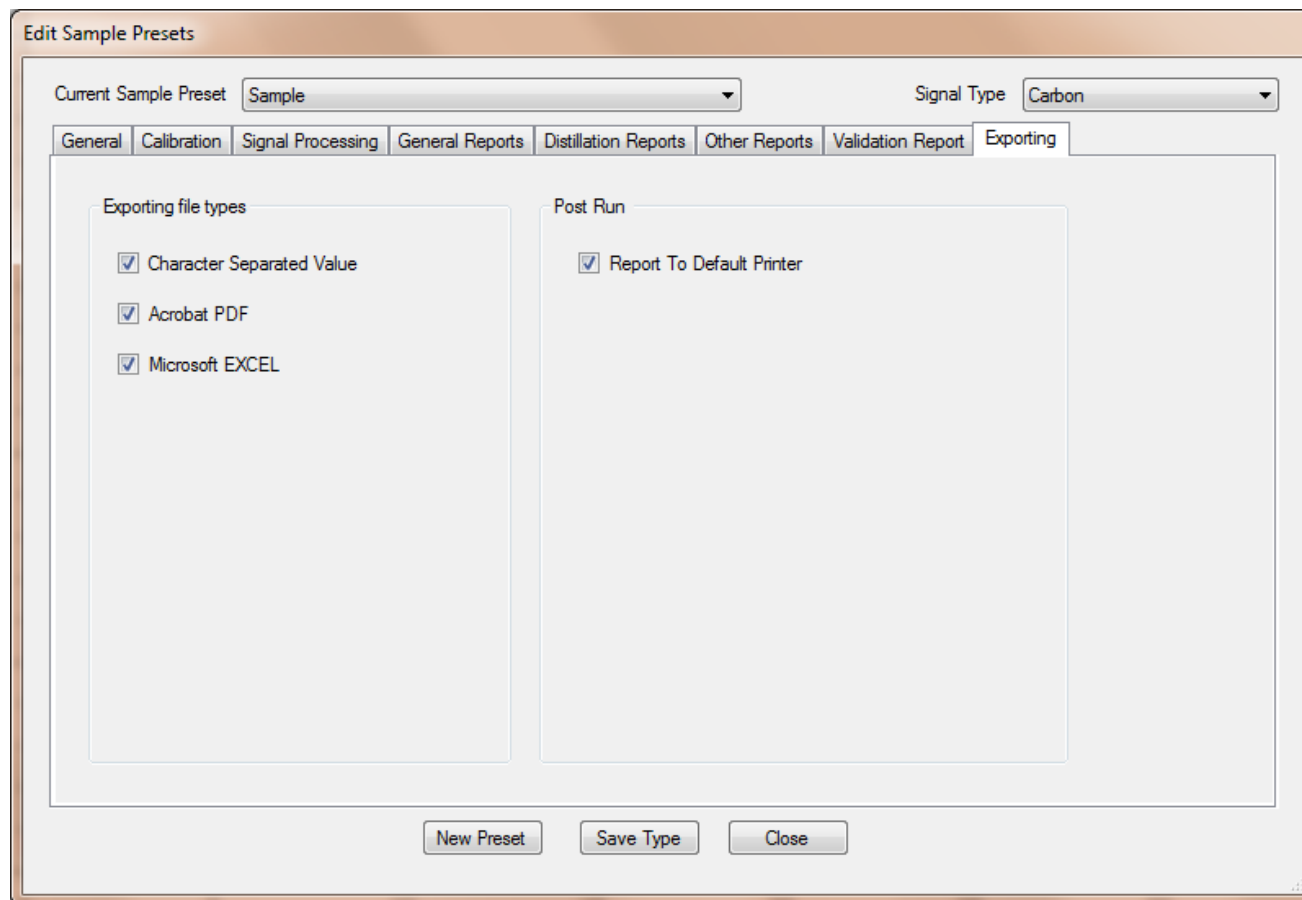
Add

Remove

New Preset Save Type Close

Validation settings for known or site specific samples

SimDist Sample Preset Editor (6)



Export to LIMS properties

Customizable Correlation

Correlation Editor

Select: ASTM D86 Jetfuel and Diesels (D2887-6a) New Delete

Correlation Model

Target Application: ASTM D86

Name: ASTM D86 Jetfuel and Diesels (D2887-6a)

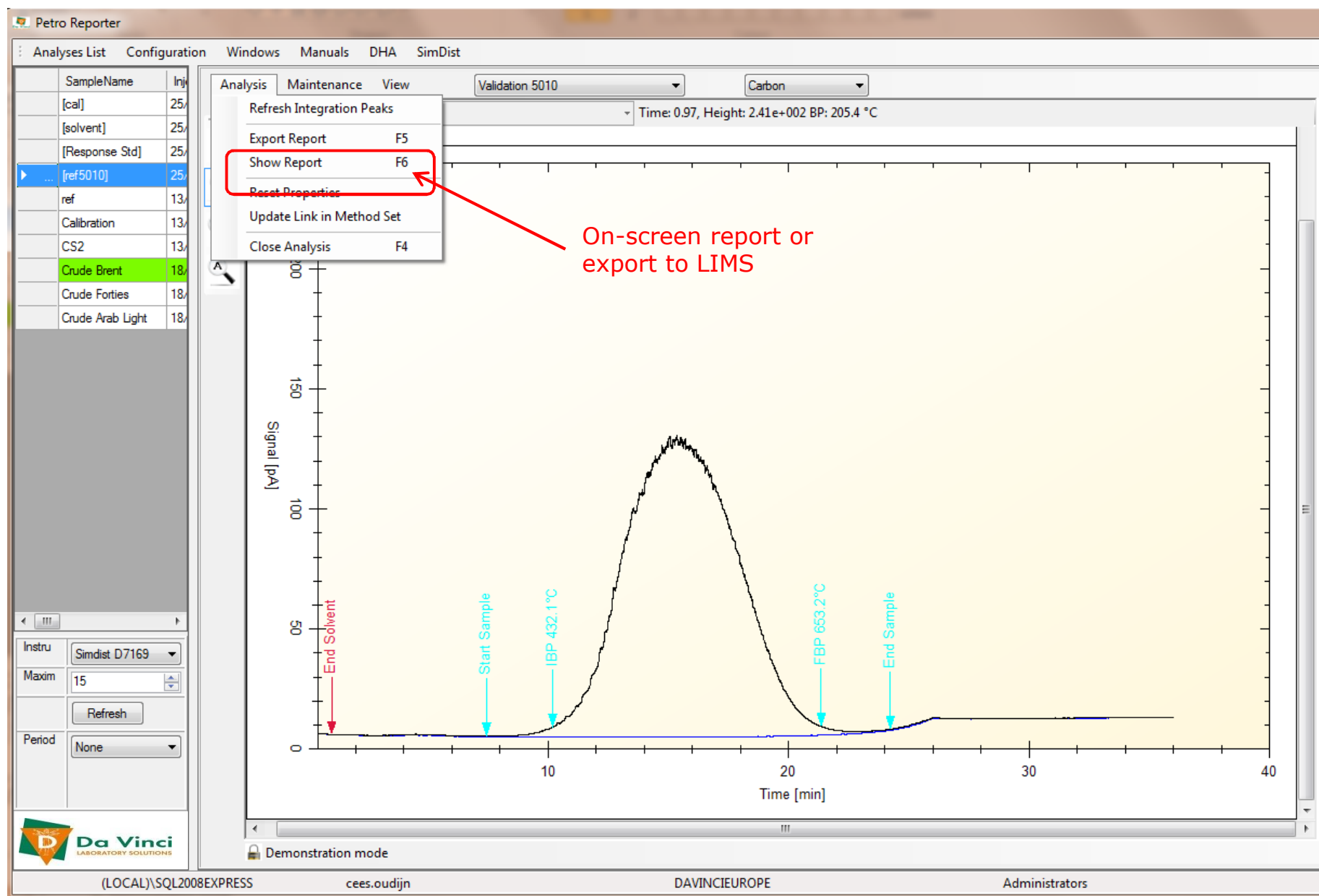
Calculation Base
☒ °C ☐ °F

	Report Value	Result	User	Factor [0]	Mass% [0]	Factor [1]	Mass% [1]	Factor [2]
▶	0.5	0	1.00	25.35100	0.0	0.32216	0.5	0.71187
	5	0	1.00	18.82200	0.0	0.06602	0.5	0.15803
	10	0	1.00	15.17300	0.0	0.20149	5.0	0.30606
	20	0	1.00	13.14100	0.0	0.22677	10.0	0.29042
	30	0	1.00	5.77660	0.0	0.37218	20.0	0.30313
	50	0	1.00	6.37530	0.0	0.07763	30.0	0.68984

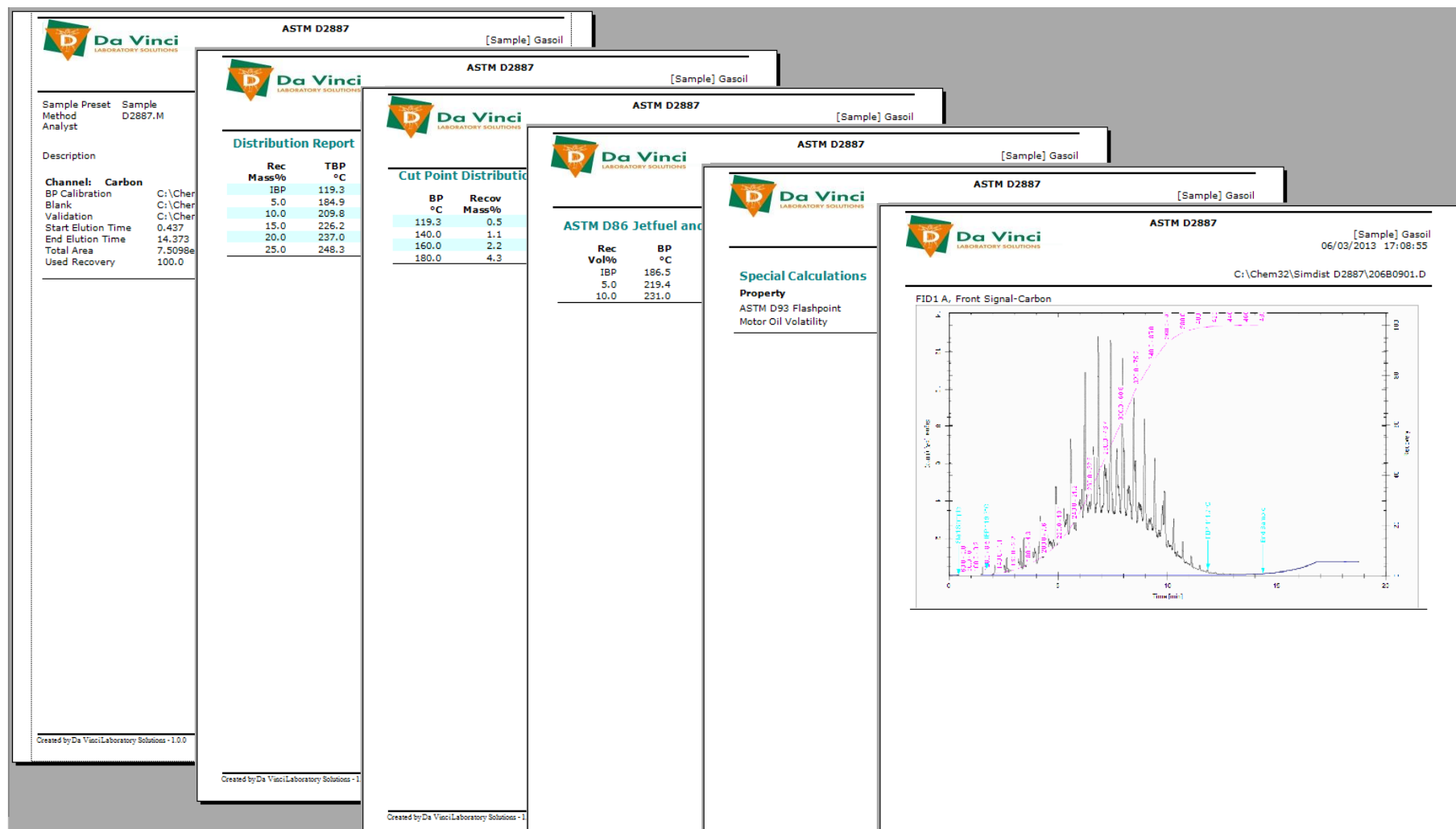
Add Delete

Correlate Save Close


Reporting



Onscreen Reporting



Validation Report



ASTMD2887
 [Validation Ref No 1]
 06/03/2013 16:40:47

C:\Chem32\SimdistD2887\205B0801.D

Sample Preset Validation Ref No 1
 Method D2887.M
 Analyst

Bottle
 Sample Weight -
 SolventWeight 1.0000
 ISTD Weight 1.0000

Description

Channel: Carbon

BP Calibration C:\Chem32\SimdistD2887\204B0601.D
 Blank C:\Chem32\SimdistD2887\NV-B0701.D
 Validation C:\Chem32\SimdistD2887\205B0801.D 06/03/2013 16:40:47 validated
 Start Elution Time 0.825
 End Elution Time 16.064
 Total Area 7.1609e+007
 Used Recovery 100.0

Validation Report

Recov Mass%	Target °C	Max Δ °C	Found °C	Δ °C
IBP	115.0	7.6	115.1	0.1
5.0	151.0	3.8	150.9	-0.1
10.0	176.0	4.1	176.0	0.0
20.0	224.0	4.9	226.1	2.1
30.0	259.0	4.7	261.6	2.6
40.0	289.0	4.3	290.9	1.9
50.0	312.0	4.3	313.6	1.6
60.0	332.0	4.3	332.3	0.3
70.0	354.0	4.3	355.4	1.4
80.0	378.0	4.3	379.7	1.7
90.0	407.0	4.3	409.0	2.0
95.0	428.0	5.0	431.2	3.2
FBP	475.0	11.8	480.3	5.3

Created by DaVinci Laboratory Solutions - 100

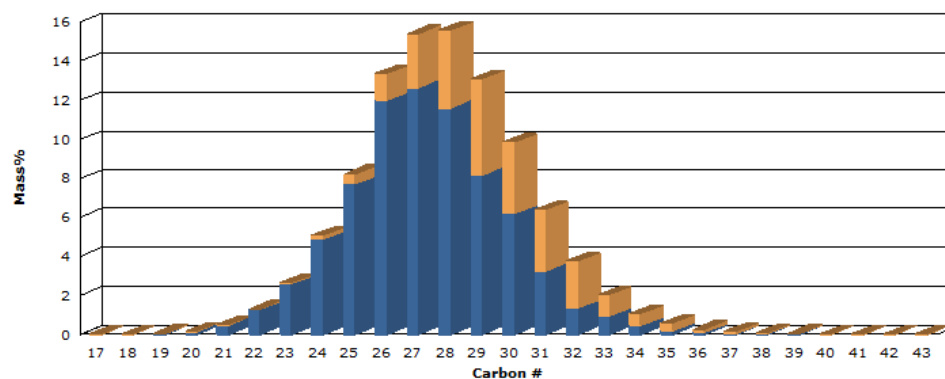
Page 1 of 2

02/04/2013 09:41:31

Validation info always present on sample reports.

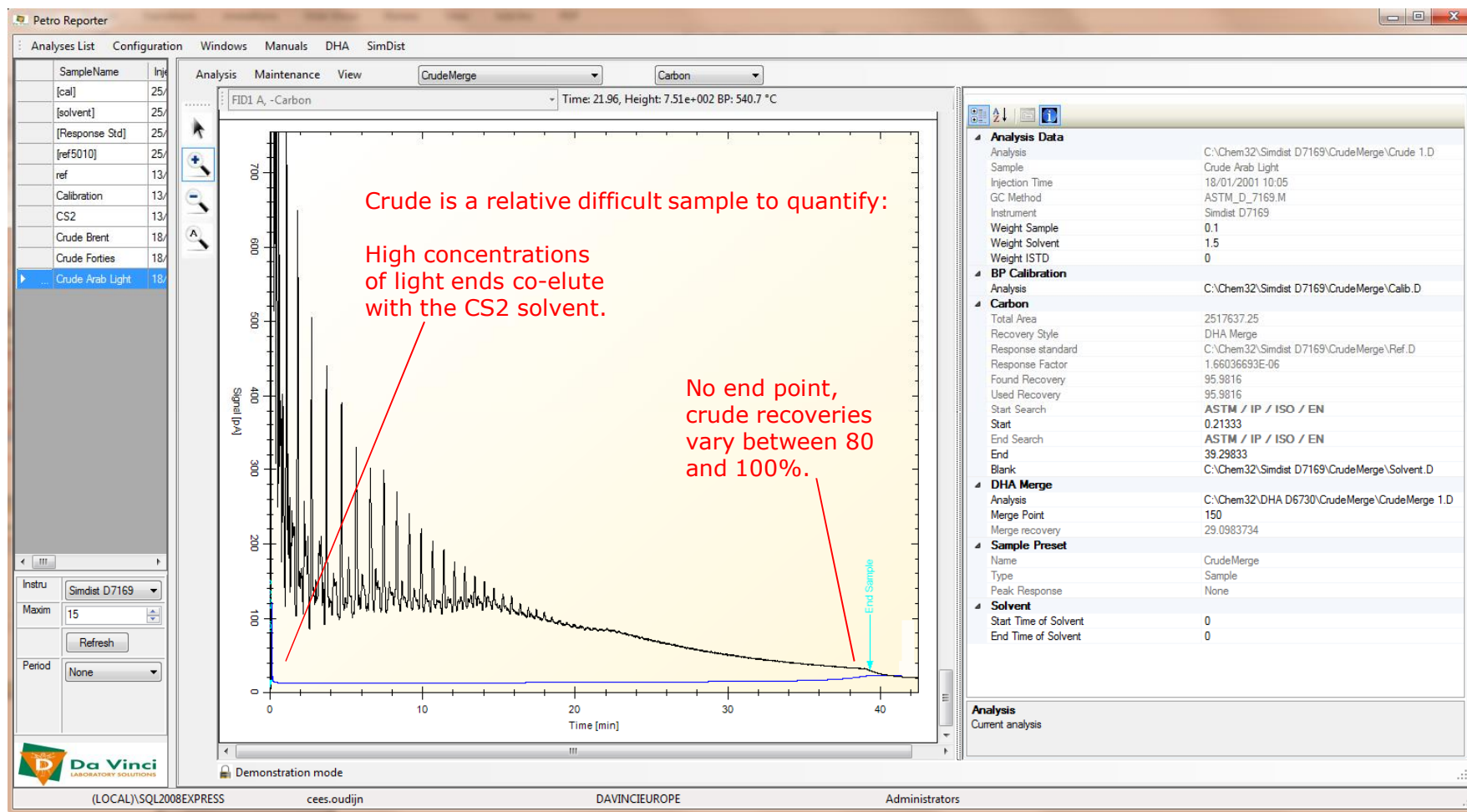
Wax Content Report (ASTM D5442)

Alkane Profile Report

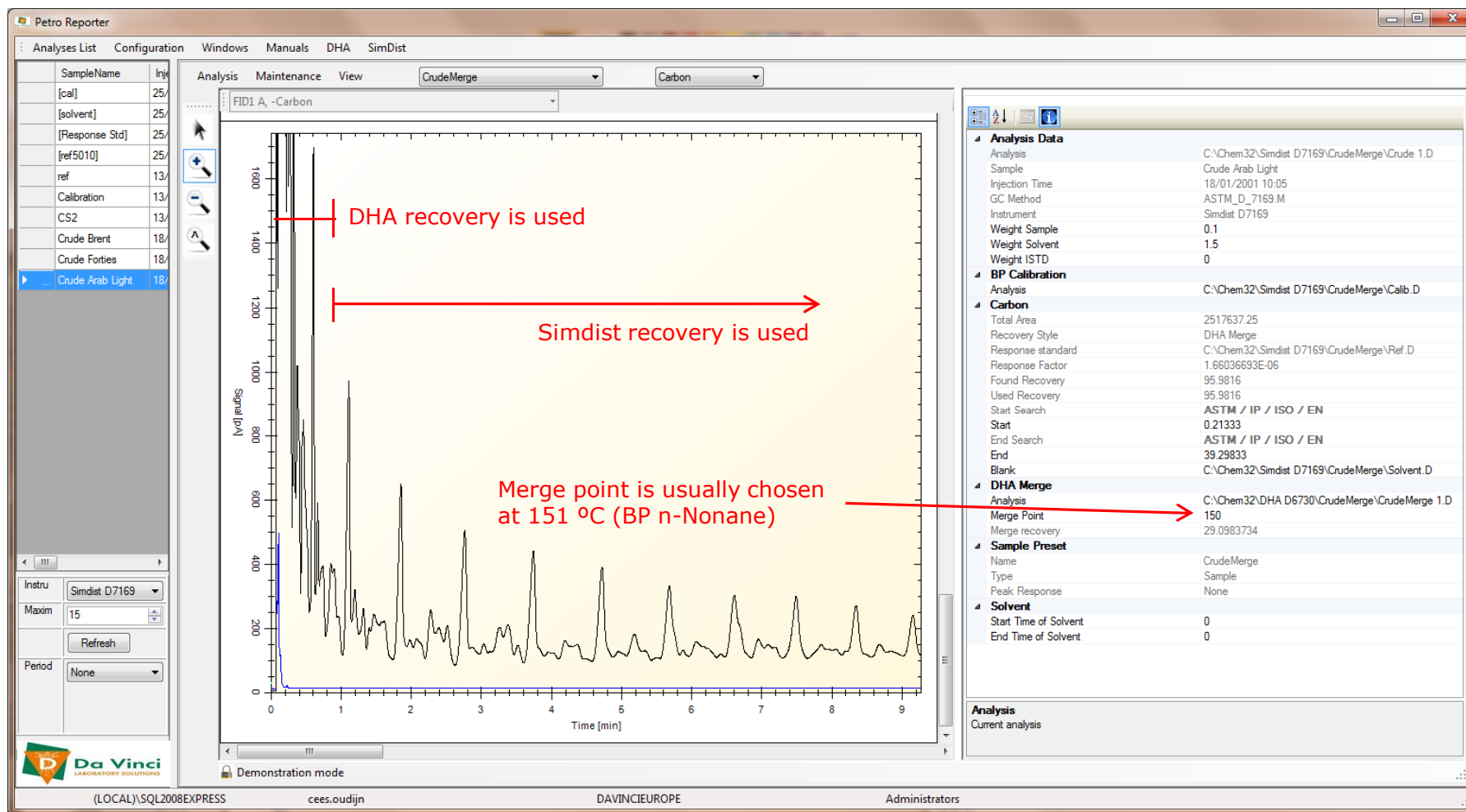


Carbon	Normals	Unknowns	Total
17	0.006	0.015	0.021
18	0.008	0.036	0.044
19	0.029	0.044	0.072
20	0.131	0.043	0.174
21	0.476	0.048	0.524
22	1.257	0.054	1.311
23	2.576	0.087	2.663
24	4.881	0.182	5.063
25	7.712	0.510	8.222
26	11.989	1.384	13.373
27	12.642	2.769	15.412
28	11.598	3.967	15.565
29	8.145	4.958	13.103
30	6.190	3.669	9.860
31	3.258	3.123	6.381
32	1.340	2.440	3.779
33	0.921	1.097	2.019
34	0.453	0.626	1.079
35	0.184	0.393	0.576
36	0.093	0.183	0.276
37	0.049	0.131	0.180
38	0.024	0.091	0.115
39	0.015	0.044	0.059
40	0.010	0.044	0.054
41	0.007	0.020	0.027
42	0.006	0.026	0.032
43	0.004	0.010	0.014
	74.010	25.99	100.00

SimDist Crude Calculations (1)



SimDist Crude Calculations (2)



Crude SimDist - DHA merge report



ASTMD7169

Crude Brent
18/01/2001 18:35:32

C:\Chem32\Simdist D7169\CrudeMerge\Crude 3.D

Sample Preset	CrudeMerge	Bottle	
Method	ASTM_D_7169.M	Sample Weight	0.1000
Analyst	Za	SolventWeight	1.3000
		ISTD Weight	-

Description Crude Brent

Channel: Carbon

BP Calibration	C:\Chem32\Simdist D7169\CrudeMerge\Calib.D
Blank	C:\Chem32\Simdist D7169\CrudeMerge\Solvent.D
Response	C:\Chem32\Simdist D7169\CrudeMerge\Ref.D
DHA	C:\Chem32\DHA D6730\CrudeMerge\CrudeMerge 3.D
Start Elution Time	0.213
End Elution Time	39.298
Total Area	2.5183e+006
Response Factor	1.6604e-006
Found Recovery	92.8
DHA Recovery at 150	34.3
SimDist Recovery	58.5
Total Recovery	92.8
Used Recovery	92.8

Combined
Simdist / DHA
recovery

Distribution Report

Rec Mass%	TBP °C	Rec Mass%	TBP °C	Rec Mass%	TBP °C	Rec Mass%	TBP °C
1.0	-36.5	24.0	100.3	47.0	241.5	70.0	420.1
2.0	-9.2	25.0	103.3	48.0	249.3	71.0	428.7
3.0	-4.8	26.0	106.4	49.0	255.9	72.0	437.2
4.0	0.1	27.0	109.1	50.0	263.2	73.0	446.1
5.0	17.4	28.0	115.8	51.0	269.4	74.0	455.6
6.0	29.0	29.0	124.2	52.0	277.5	75.0	465.9
7.0	32.1	30.0	124.7	53.0	285.5	76.0	476.4
8.0	35.2	31.0	125.2	54.0	292.6	77.0	486.9
9.0	52.4	32.0	126.6	55.0	300.2	78.0	498.3
10.0	61.1	33.0	137.0	56.0	305.2	79.0	511.1
11.0	64.4	34.0	147.3	57.0	313.6	80.0	525.7
12.0	66.8	35.0	156.0	58.0	319.1	81.0	541.4
13.0	69.2	36.0	161.7	59.0	327.9	82.0	553.6
14.0	71.7	37.0	169.8	60.0	335.2	83.0	566.1
15.0	80.3	38.0	175.0	61.0	343.1	84.0	579.4
16.0	80.7	39.0	179.2	62.0	352.4	85.0	593.5
17.0	90.3	40.0	186.1	63.0	360.2	86.0	608.7
18.0	92.0	41.0	191.5	64.0	368.2	87.0	624.7
19.0	94.6	42.0	202.1	65.0	377.7	88.0	641.8
20.0	97.6	43.0	214.2	66.0	386.4	89.0	660.2
21.0	98.6	44.0	220.0	67.0	395.0	90.0	681.2
22.0	98.8	45.0	226.8	68.0	403.5	91.0	704.3
23.0	99.0	46.0	232.6	69.0	411.8		

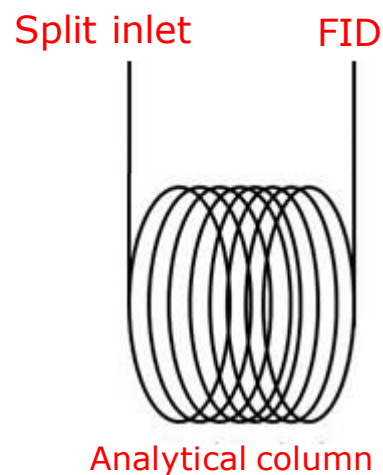
DHA true
boiling point
results

DHA Application

- Determines
 - Component identification up to tridecane
 - Component concentration (mass%, vol%, mol%)
- Purpose
 - Used for quality control of refinery streams, mostly related to the gasoline blending pool
 - Used for quality control of finished gasoline
- Market Area
 - Refinery laboratories
 - Independent laboratories
 - Chemical plants (consumes naphtha for plastics)
 - Solvent plants (feedstock evaluation)

Hardware

- Relatively simple setup
- Standard GC parts (except crude method)
- Autosampler injection
- Electronic pressure control
- Mostly non-polar columns
- Sometimes an additional polar pre-column is used




Background

- Peak identification using Kovats Retention Indices (RI)

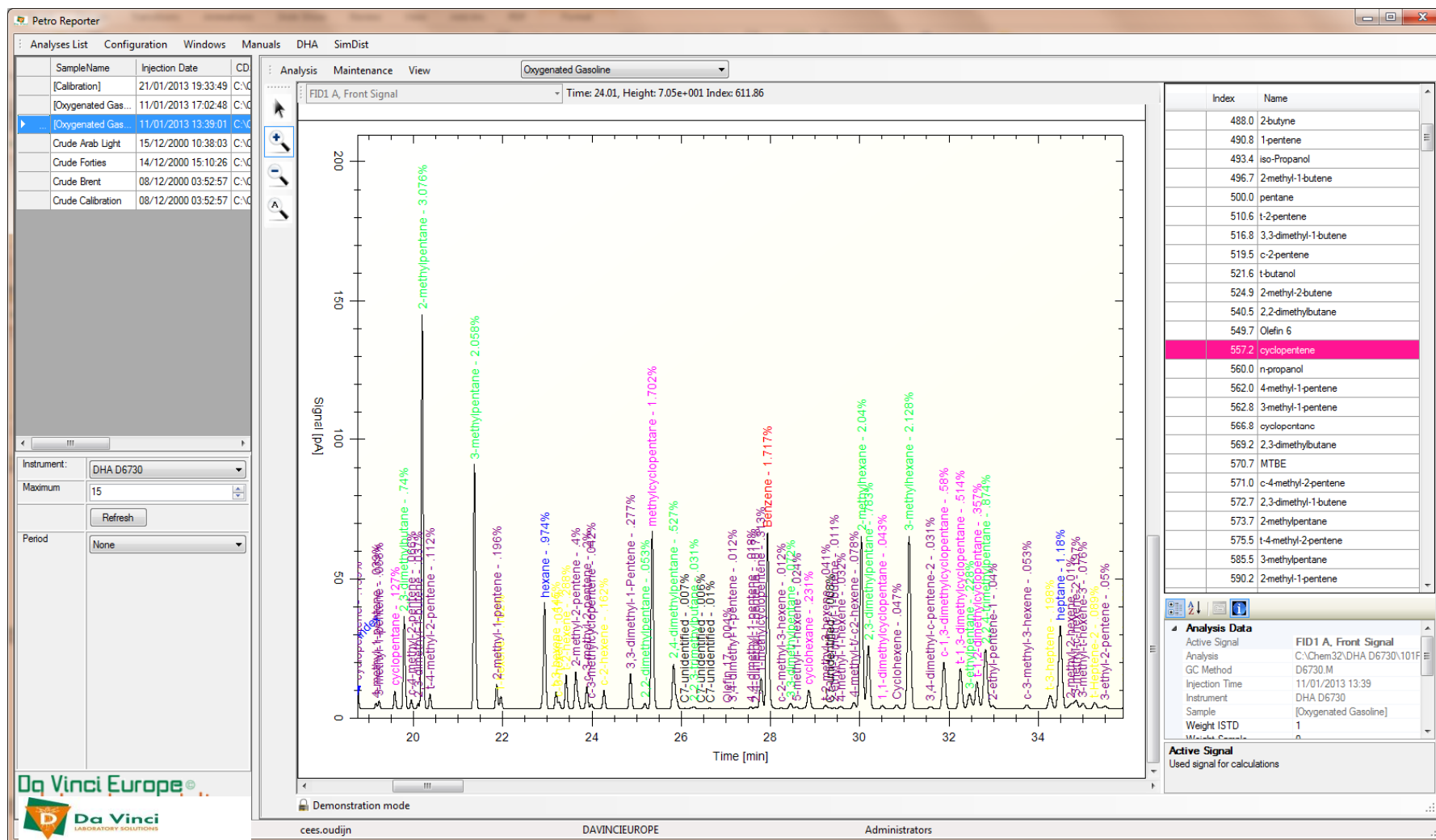
$$RI = 100 * \left[C_1 + (C_2 - C_1) * \frac{(\text{Log}(t - t_0) - \text{Log}(t_1 - t_0))}{(\text{Log}(t_2 - t_0) - \text{Log}(t_1 - t_0))} \right]$$

- RI unknown peak (*I*) calculated from:
 - Retention time unknown peak
 - Retention time n-paraffin eluting before and after unknown peak
- RI unaffected in case of (small) retention time shifts
- Calculated RI is matched against a database in the software



Index	CompName	Group	RRF	MolWt	BP °C	Density	RON	MON	Vapor Pres	Gross Heating	Nett Heating
411.4	t-2-butene	normal Olefin	0.8742	56.1	1.0	0.6112	153.0	130.0	49.9	20700.29	19389
414.3	2,2-dimethylpropane	iso Paraffin	0.8995	72.1	9.5	0.5974	83.5	80.2	36.7	20898.41	19369
425.8	c-2-butene	normal Olefin	0.8742	56.1	3.7	0.6286	153.0	130.0	45.8	20726.29	19415
436.6	1,2-butadiene	di Olefin	0.8431	54.1	10.9	0.6576	185.0	135.0	36.8	20586.82	19567
445.4	ethanol	Oxygenate	1.8620	46.1	78.3	0.7967	126.0	102.0	2.3	12727.62	11530
456.2	cyclobutane	cyclo Paraffin	0.8742	56.1	12.6	0.6999	100.0	100.0	34.1	20987.29	19676
457.7	3-methyl-1-butene	iso Olefin	0.8739	70.1	20.0	0.6322	129.0	125.0	26.4	20469.75	19158
474.7	iso Pentane	iso Paraffin	0.8995	72.1	27.8	0.6247	92.3	90.3	20.4	20833.41	19304
481.9	1,4-Pentadiene	di Olefin	0.8490	68.1	26.0	0.6663	180.0	160.0	21.9	20113.22	19033

PetroReporter Main DHA Menu

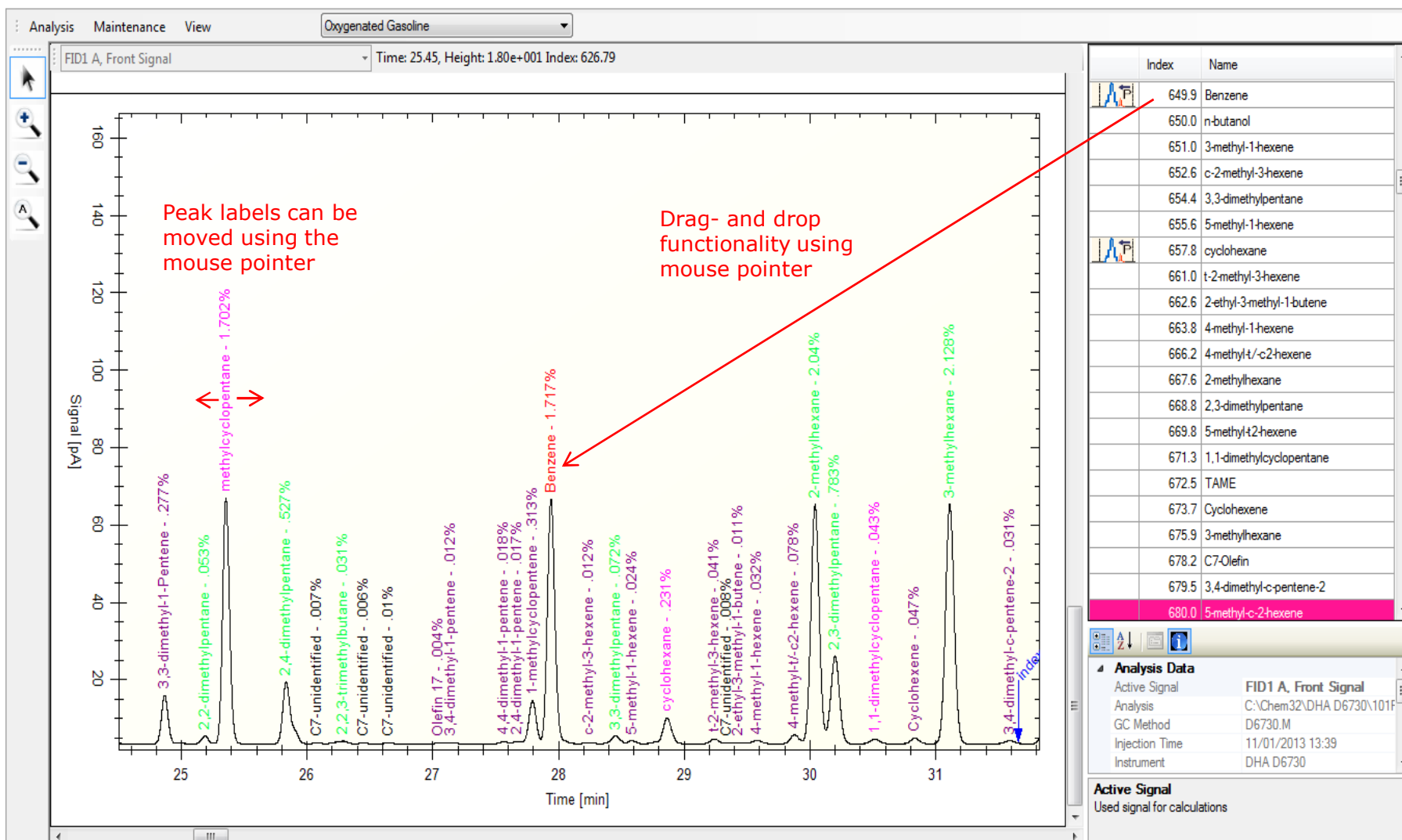


Sample list

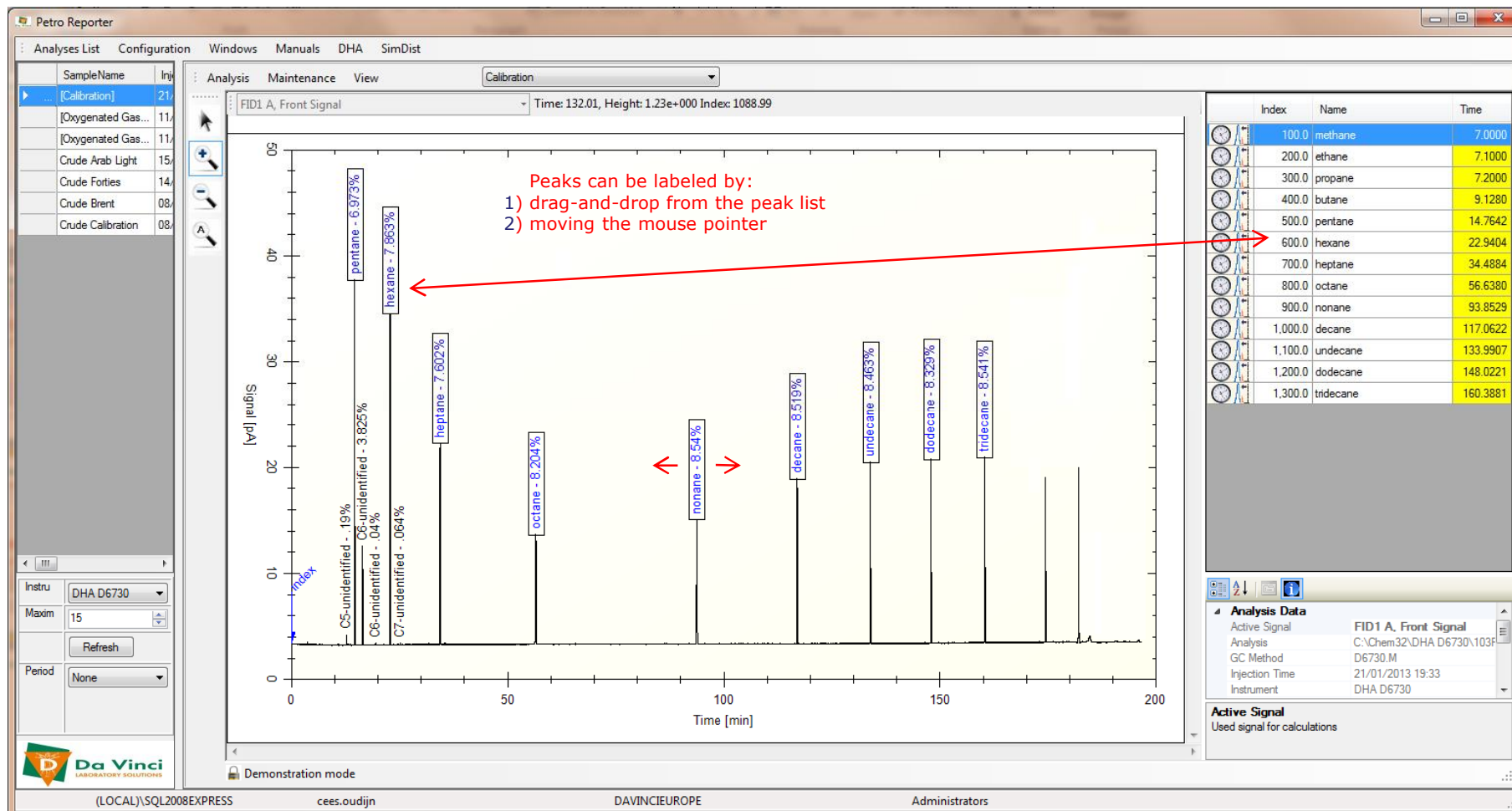
Chromatogram

Sample details

DHA Sample Details



DHA Calibration



DHA Sample Preset Editor (1)

Edit Sample Presets

Current Sample Preset: Oxygenated Gasoline

General Group Filter Primary Components Index Windows Peak / Group Report Other Reports Exports

Group Name	Select
normal Paraffin	<input checked="" type="checkbox"/>
iso Paraffin	<input checked="" type="checkbox"/>
cyclo Paraffin	<input checked="" type="checkbox"/>
normal Olefin	<input type="checkbox"/>
iso Olefin	<input type="checkbox"/>
cyclo Olefin	<input type="checkbox"/>
Aromatics	<input checked="" type="checkbox"/>
Oxygenate	<input checked="" type="checkbox"/>
di Olefin	<input type="checkbox"/>

By selecting only sample-applicable components, the peak RI matching process becomes more robust.

New Preset Save Type Close

DHA Sample Preset Editor (2)

Edit Sample Presets

Current Sample Preset: Oxygenated Gasoline

General Group Filter Primary Components Index Windows Peak / Group Report Other Reports Exports

Preset Components:

Index	Name
100.0	methane
200.0	ethane
300.0	propane
366.1	isoButane
378.8	methanol
400.0	butane
415.1	2,2-dimethylpropane
455.3	ethanol
477.5	isoPentane
483.0	ethylcyclopropane
493.4	iso-Propanol
500.0	pentane
521.6	t-butanol
540.5	2,2-dimethylbutane
560.0	n-propanol
566.8	cyclopentane

Primary Preset Components:

Index	Usage	Name
649.9	Main Component	Benzene
657.8	Main Component	cyclohexane
751.8	Main Component	toluene
854.7	Main Component	ethylbenzene
864.2	Main Component	m-xylene
883.5	Main Component	o-xylene

Primary components will first be matched with unknown peaks, which reduces the chance of misidentification for major peaks.

New Preset Save Type Close

DHA Sample Preset Editor (3)

Edit Sample Presets

Current Sample Preset: Oxygenated Gasoline

General Group Filter Primary Components Index Windows Peak / Group Report Other Reports Exports

	Index	Window
▶	0.0	15.0
	400.0	5.0
	550.0	4.0
	750.0	3.0
	800.0	1.5
	1,500.0	0.5

Add Delete

New Preset Save Type Close

Flexibility on the RI matching windows allows for more accurate identification (to areas of the chromatogram with more peaks present).

DHA Sample Preset Editor (4)

Edit Sample Presets

Current Sample Preset: Oxygenated Gasoline

General | Group Filter | Primary Components | Index Windows | **Peak / Group Report** | Other Reports | Exports

Group Report

Report Style: PIONAX

Maximum Carbon Group: 13

☒ Show Mass% Report

☒ Show Volume% Report

☒ Show Mol% Report

Peak Report

☐ Show Peak Report ☒ Page Break Before

Selected Report Columns:

Report Column	Selected
Name	<input checked="" type="checkbox"/>
#	<input checked="" type="checkbox"/>
Index	<input checked="" type="checkbox"/>
Time	<input checked="" type="checkbox"/>
Area	<input checked="" type="checkbox"/>
Mass%	<input checked="" type="checkbox"/>
Vol%	<input checked="" type="checkbox"/>
Mol%	<input checked="" type="checkbox"/>

Group (PIONA) report settings

Individual hydrocarbon report settings

New Preset Save Type Close

DHA Sample Preset Editor (5)

Current Sample Preset: Oxygenated Gasoline

General Group Filter Primary Components Index Windows Peak / Group Report **Other Reports** Exports

Distillation

☒ Show TBP Mass Report ☒ Show TBP Volume Report

Report Temperature Unit

☒ Centigrade ☐ Fahrenheit

☐ Export for SimDist Merge ☐ Page Break Before

Special Calculations

☐ Page Break Before

☒ Reid Vapor Pressure

☒ Specific Gravity at 60/60

☒ Heating Values

☒ Octane Numbers

☒ Bromine Number

Chromatogram

☒ Show Plot ☒ Page Break Before

X-Axis

☐ Automatic

Minimum: 0.0

Maximum: 0.0

Step [min]: 5.0

Y-Axis

☒ Automatic

Minimum: 0.0

Maximum: 0.0

Error Reporting

☐ Show

☐ Page Break Before

Level: 2

New Preset Save Type Close

Boiling point reports

Special calculations based on hydrocarbon individual physical properties.

Chromatogram output settings

DHA Sample Preset Editor (6)

Edit Sample Presets

Current Sample Preset: Oxygenated Gasoline

General | Group Filter | Primary Components | Index Windows | Peak / Group Report | Other Reports | Exports

Exporting file types

- ☒ Character Separated Value
- ☒ Acrobat PDF
- ☒ Microsoft EXCEL

Post Run

- ☒ Report To Default Printer

Export to LIMS properties

New Preset | Save Type | Close

Component Database Editor

Petro Reporter

Analyses List Configuration Windows Manuals DHA SimDist

Analysis Maintenance View Oxygenated Gasoline

Sample Presets Editor F2

Component Editor

Method Links

Upc DHA Component Editor - ASTM D 6730

Delete	Index	CompName	Group	RRF	MolWt	BP °C	Density	RON	MON
<input type="checkbox"/>	100.0	methane	normal Paraffin	1.0000	16.0	-161.5	0.3000	101.0	100
<input type="checkbox"/>	178.1	ethene	normal Olefin	0.8727	28.0	-103.7	0.3500	180.0	160
<input type="checkbox"/>	200.0	ethane	normal Paraffin	0.9372	30.1	-89.0	0.3562	101.6	100
<input checked="" type="checkbox"/>	284.0	propene	normal Olefin	0.8727	42.0	-47.7	0.5210	180.0	160
<input type="checkbox"/>	300.0	C3-unidentified	Unknown	0.8743	42.1	-42.0	0.5070	88.0	79
<input type="checkbox"/>	300.0	propane	normal Paraffin	0.9162	44.1	-42.0	0.5070	88.0	79
<input type="checkbox"/>	313.1	propadiene	di Olefin	0.8332	40.1	-34.5	0.5997	220.0	200
<input type="checkbox"/>	366.1	isoButane	iso Paraffin	0.9057	58.1	-11.7	0.5629	100.1	97
<input type="checkbox"/>	378.8	methanol	Oxygenate	2.6720	32.0	65.0	0.7965	128.0	101
<input type="checkbox"/>	386.9	1-butyne	normal Olefin	0.8431	54.1	8.1	0.6959	180.0	130
<input type="checkbox"/>	390.7	1-butene	normal Olefin	0.8742	56.1	-6.3	0.6005	144.0	126
<input type="checkbox"/>	391.5	isobutene	iso Olefin	0.8742	56.1	-6.9	0.6013	170.0	139
<input type="checkbox"/>	394.9	1,3-butadiene	di Olefin	0.8431	54.1	-4.4	0.6273	190.0	140
<input type="checkbox"/>	400.0	butane	normal Paraffin	0.9057	58.1	-0.5	0.5840	66.0	60
<input type="checkbox"/>	400.0	C4-unidentified	Unknown	0.8429	54.1	-0.5	0.5840	150.0	130
<input type="checkbox"/>	409.0	VinylAcetylene	iso Olefin	0.8119	52.1	5.1	0.6500	150.0	130
<input type="checkbox"/>	412.1	1,2-butene	normal Olefin	0.8742	56.1	1.0	0.6112	153.0	130

Signal [pA]

Time [min]

Per application, properties of components can be modified in the database.

Add

Store/Close

DHA D6730

Maxim 15

Refresh

Period None

Da Vinci LABORATORY SOLUTIONS

Demonstration mode

Channel Partner

Onscreen reporting



[Oxygenated Gasoline]
1/11/2013 5:02:48PM

C:\Chem32\1\DATA\20130104_GCB_D6730-7\102F0201.D

Sample Preset Oxygenated Gasoline
Method D6730.M
Analyst
Description
Calibration C:\Chem32\1\

Bottle
Sample Weight -
ISTD Weight 1.0000

Group Report in Mass%

n-Par i-Par

C2	0.00	0.00
C3	0.01	0.00
C4	1.39	0.11
C5	0.87	9.76
C6	0.90	5.43
C7	1.11	5.51
C8	0.84	5.13
C9	0.29	2.43
C10	0.11	0.67
C11	0.04	0.20
C12	0.03	0.19
C13	0.03	0.01
Total	5.61	29.43

Group Report in Volume%

n-Par i-Par

C2	0.00	0.00
C3	0.01	0.00
C4	1.79	0.14
C5	1.04	11.75
C6	1.03	6.16
C7	1.22	6.01
C8	0.90	5.45
C9	0.30	2.53
C10	0.11	0.69
C11	0.04	0.20
C12	0.03	0.19
C13	0.03	0.01
Total	6.48	33.14

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[Oxygenated Gasoline]
1/11/2013 5:02:48PM

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Detailed Peak Report

#	Index	Time	Area
1	300.0	7.208	1.003E+000
2	364.8	8.225	1.453E+001
3	390.0	8.874	1.056E+001
4	400.0	9.185	1.882E+002
5	411.6	9.571	8.880E-001
6	414.5	9.675	3.221E+000
7	426.8	10.154	1.706E+000
8	454.5	11.494	6.317E-001
9	460.5	11.839	8.266E+000
10	477.1	12.918	1.330E+003
11	490.8	13.970	3.214E+001
12	496.7	14.471	6.037E+001
13	500.1	14.767	1.188E+002
14	506.1	15.118	2.181E+000
15	510.6	15.396	9.014E+001
16	516.8	15.786	2.623E+000
17	519.6	15.965	4.984E+001
18	521.5	16.086	5.931E+000
19	524.9	16.320	1.253E+002
20	528.0	16.530	2.220E+000
21	538.0	17.248	7.888E-001
22	540.6	17.435	7.967E+000
23	557.2	18.757	2.129E+001
24	561.9	19.167	5.189E+000
25	562.7	19.237	7.667E+000
26	566.7	19.591	1.601E+001
27	569.0	19.800	9.319E+001
28	570.8	19.962	8.709E+000
29	572.4	20.112	4.996E+000
30	573.4	20.204	3.852E+002
31	575.3	20.380	1.484E+001
32	585.4	21.376	2.590E+002
33	590.2	21.873	2.534E+001
34	591.1	21.967	1.323E+001
35	600.1	22.947	1.242E+002
36	603.0	23.203	1.881E+001
37	603.7	23.270	6.534E+000
38	605.5	23.431	3.741E+001
39	607.9	23.647	5.189E+001
40	610.6	23.895	2.605E+001
41	611.7	23.999	5.651E+000
42	614.7	24.280	2.116E+001
43	620.7	24.859	1.262E+003
44	624.1	25.192	7.049E+000
45	625.8	25.367	2.227E+002
46	630.5	25.844	6.866E+001

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[Oxygenated Gasoline]
1/11/2013 5:02:48PM

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Boiling Point Distribution Report

Perc	TBP (mass) [°C]	TBP (vol) [°C]	Perc
IBP	-8.7	-9.6	34.0
1.0	-4.9	-6.7	35.0
2.0	20.3	-0.7	36.0
3.0	21.1	20.6	37.0
4.0	21.9	21.2	38.0
5.0	22.7	21.9	39.0
6.0	23.5	22.6	40.0
7.0	24.3	23.2	41.0
8.0	25.1	23.9	42.0
9.0	25.9	24.6	43.0
10.0	26.7	25.2	44.0
11.0	27.5	25.9	45.0
12.0	30.8	26.6	46.0
13.0	36.1	27.2	47.0
14.0	36.6	28.8	48.0
15.0	43.9	34.8	49.0
16.0	58.0	36.2	50.0
17.0	59.1	36.7	51.0
18.0	59.7	44.0	52.0
19.0	60.5	57.9	53.0
20.0	62.6	59.0	54.0
21.0	63.3	59.5	55.0
22.0	68.2	60.0	56.0
23.0	68.7	62.2	57.0
24.0	70.4	62.8	58.0
25.0	70.5	65.8	59.0
26.0	70.5	68.3	60.0
27.0	70.6	68.7	61.0
28.0	70.6	70.4	62.0
29.0	70.7	70.5	63.0
30.0	70.7	70.5	64.0
31.0	70.8	70.6	65.0
32.0	70.8	70.6	66.0
33.0	70.9	70.7	67.0

Calculations

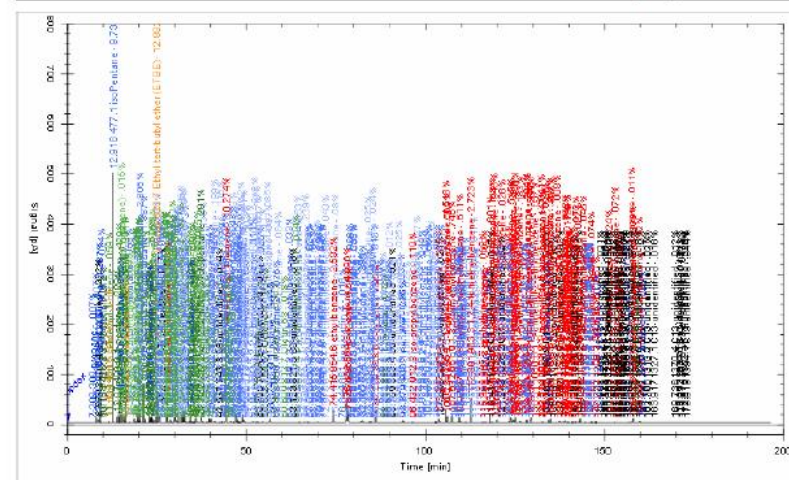
Specific Gravity 0.7521
Reid Vapor Pressure 5.4
Motor Octane Number 89.4
Research Octane Number 98.2
Gross Heating Value 44,656.4
Nett Heating Value 41,886.5
Bromine Number 17.8



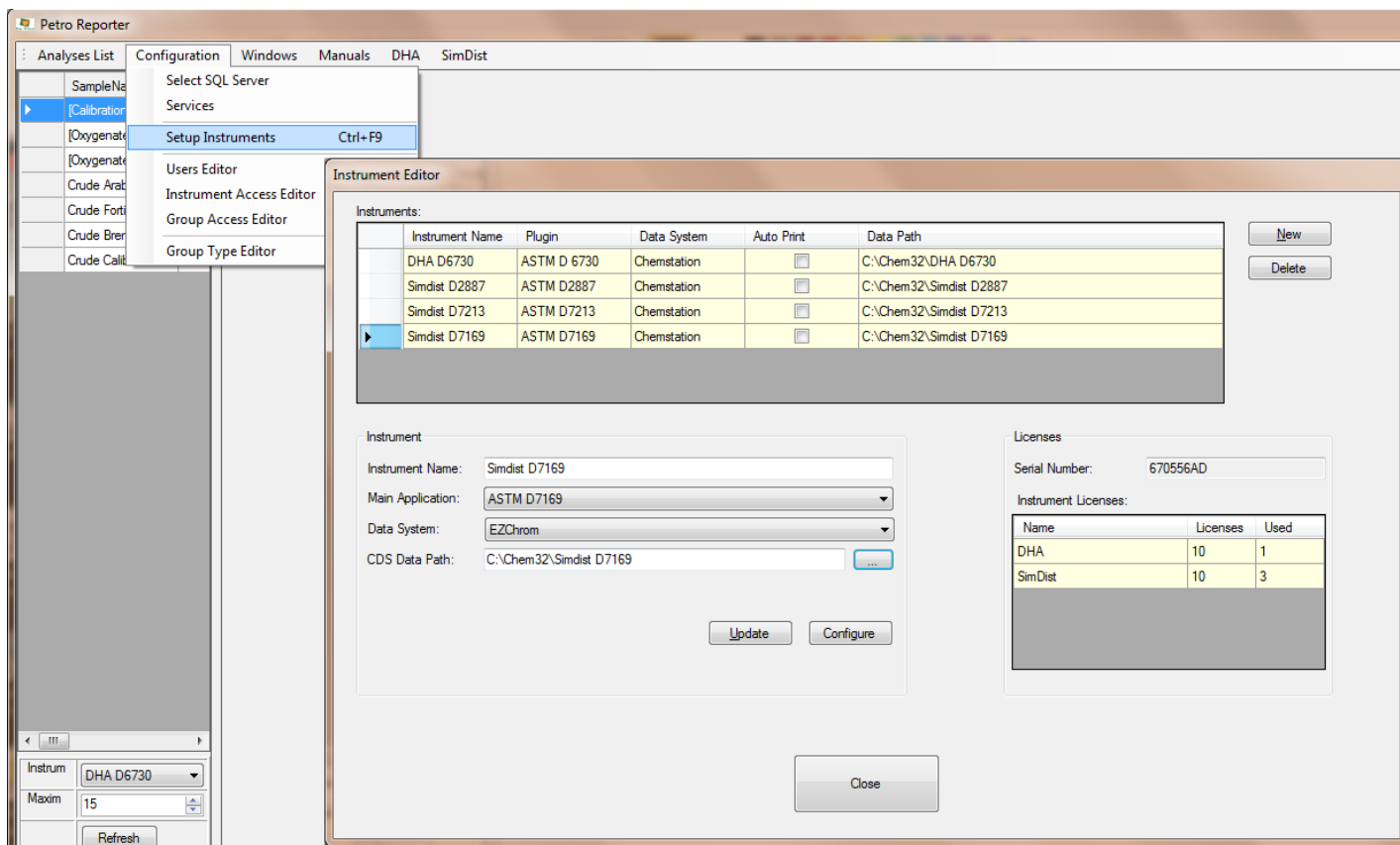
[Oxygenated Gasoline]
1/11/2013 5:02:48PM

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C:\Chem32\1\DATA\20130104_GCB_D6730-7\102F0201.D



Easy Setup and Configuration



In this screen all instruments are created and configured.

Part of the configuration is the application and CDS selection.

It also shows the number of licenses available.

Optional Other Configuration Features

The screenshot shows the Petro Reporter configuration window with several sections highlighted by red boxes and arrows. The 'Configuration' menu is open, showing options like 'Select SQL Server', 'Services', 'Setup Instruments', 'Users Editor', 'Instrument Access Editor', 'Group Access Editor', and 'Group Type Editor'. The 'Users Editor' section is highlighted, showing a list of users and a search bar. The 'Instrument Users' section is highlighted, showing a list of users and a search bar. The 'Select User Group' section is highlighted, showing a dropdown menu and a table of user groups. The 'Define shortcuts & accessibility per user' section is highlighted, showing a table of modules and their accessibility. The 'Choose the appearance of the peaks in the chromatogram' section is highlighted, showing a table of peak names and their colors.

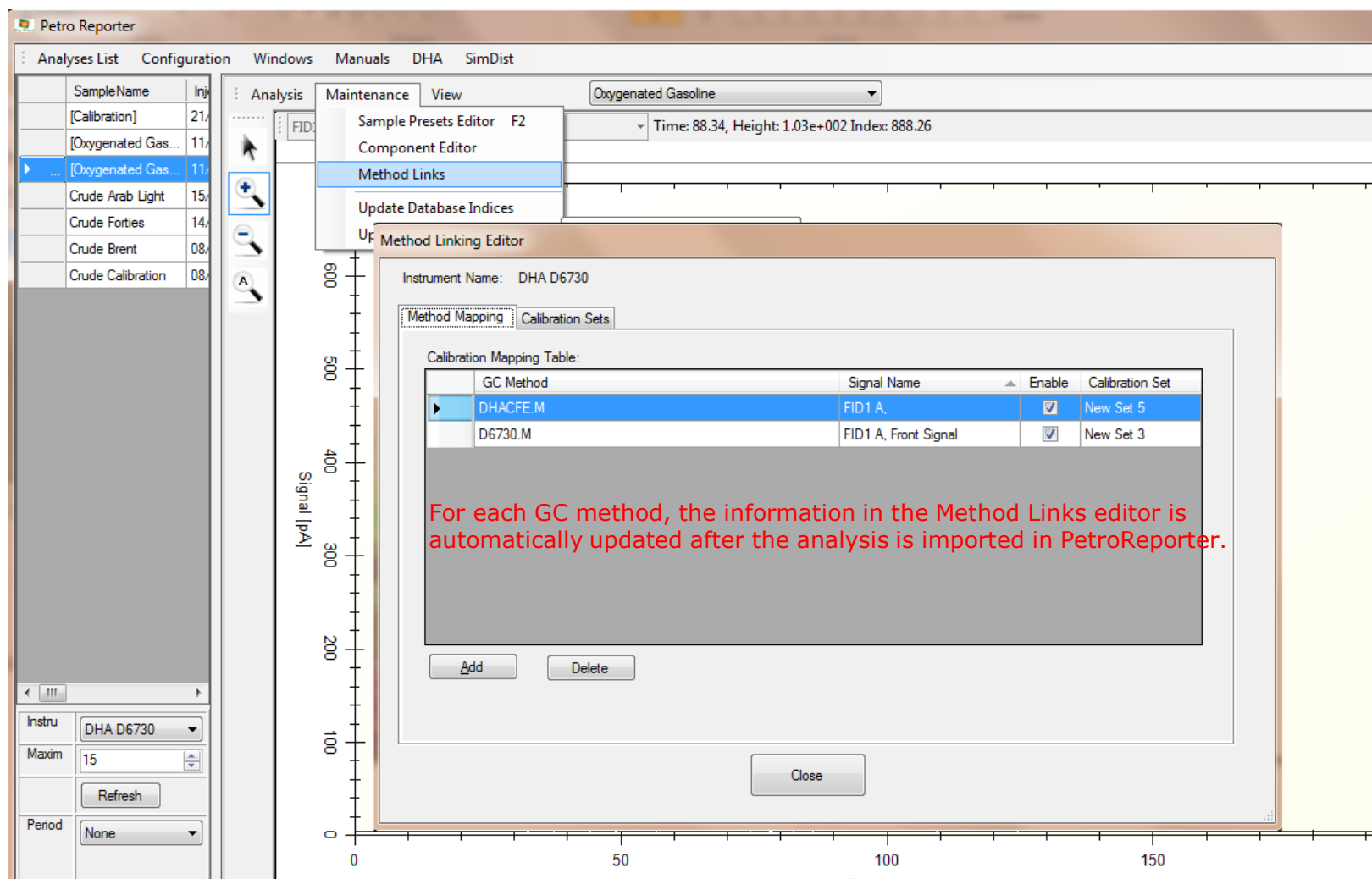
Select PetroReporter users from the company domain.

Select users per instrument.

Define shortcuts & accessibility per user.

Choose the appearance of the peaks in the chromatogram.

Active Signal Storage



The screenshot shows the Petro Reporter software interface. The 'Method Links' editor is open, displaying a table mapping GC methods to signal names and calibration sets. The table is titled 'Calibration Mapping Table:' and has columns for 'GC Method', 'Signal Name', 'Enable', and 'Calibration Set'. The table contains two rows: 'DHACFE.M' mapped to 'FID1 A.' and 'D6730.M' mapped to 'FID1 A, Front Signal'. Both are enabled and linked to 'New Set 5' and 'New Set 3' respectively. A red text overlay states: 'For each GC method, the information in the Method Links editor is automatically updated after the analysis is imported in PetroReporter.'

GC Method	Signal Name	Enable	Calibration Set
DHACFE.M	FID1 A.	<input checked="" type="checkbox"/>	New Set 5
D6730.M	FID1 A, Front Signal	<input checked="" type="checkbox"/>	New Set 3

Manuals Available Inside PetroReporter

The screenshot displays the Petro Reporter software interface. The 'Manuals' menu is open, showing options for 'User Manual PetroReporter', 'User Manual DHA', and 'User Manual SimDist'. The 'Contents' window is also open, displaying a table of contents for the 'User Manual PetroReporter'.

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At the bottom of the 'Contents' window, it says 'User Manual Petro Reporter Page: 2 of 31'.



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