



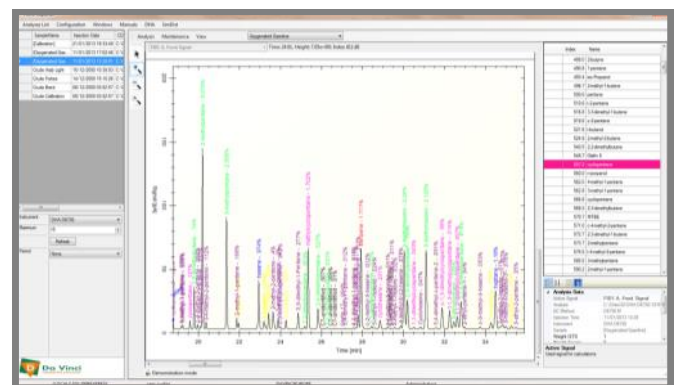
**Da Vinci**  
LABORATORY SOLUTIONS

## DVLS PetroReporter Automates Data Processing & Reporting of Petroleum Samples

Da Vinci Laboratory Solutions offers PetroReporter: a software tool that automates data processing of petroleum samples ranging from gases up to and including crude oil. After data processing PetroReporter creates the required DHA, SimDist and/or Gas Calculation reports. PetroReporter is a universal software tool that allows refinery labs, independent labs and chemical plants to use one software package to process and report all petroleum samples.

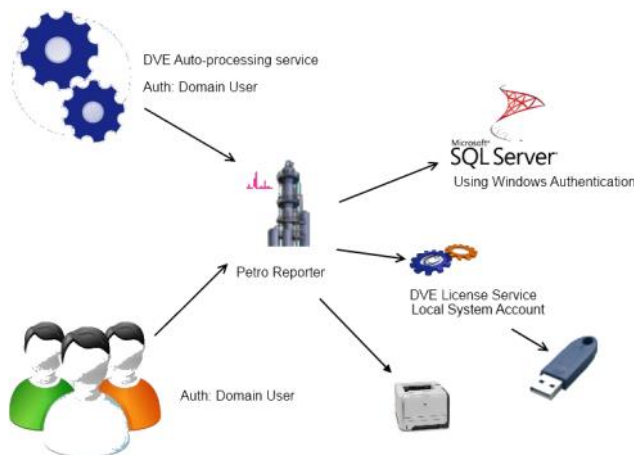
### Application Range

- ASTM, DIN, EN, IP, ISO applications for Simulated Distillation (SimDist)
- ASTM D5134, D6729, D6730 & D6733 applications for Detailed Hydrocarbon Analysis (DHA)
- ASTM, DIN, EN, GPA and ISO gas calculation modules.



*PetroReporter Menu for DHA application*

### Client Server Configuration



PetroReporter can be used either stand-alone or in a network configuration. The client/server architecture of the software allows to process the analysis data from any PC workstation.

### Compatibility

The DVLS PetroReporter is compatible with chromatographic data systems (CDS) of major suppliers including:

- Agilent EZChrom Elite 3.2, 3.3, 3.3.1 and 3.3.2
- OpenLab EZChrom A01.00
- Agilent ChemStation 04.01, 04.02, 04.03
- OpenLab ChemStation A01.00
- Bruker CompassCDS 3.0
- Perkin Elmer TotalChrom 6.2.1 for SimDist / DHA only
- Perkin Elmer TotalChrom 6.3.2 for SimDist / DHA only
- Thermo Chromeleon 7.2
- Other CDS systems on request



**Boosting laboratory efficiency**

# DHA Reports Generated with the DVLS PetroReporter

## Predefined Settings

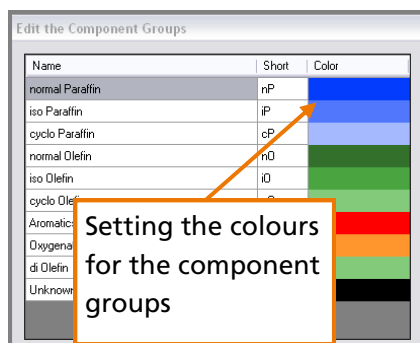
PetroReporter includes predefined sample settings, component tables and formulas to provide a correct sample identification. Each peak is identified using the Kovats Retention Indices (RI). The RI of unknown peaks are calculated from:

- the retention time of the unknown peak
- the retention times of the n-paraffins eluting before and after the unknown peak.

PetroReporter compares the calculated RI with the component tables to identify the component.

## User-Friendly Editors

One of the editors is the Component Group Editor that assigns colours to each group. The editor allows you to customize the group labelling by colour. By assigning colours to the various groups you can see at a glance the peak identification. Select the Hide/Show option to display or hide a component group.

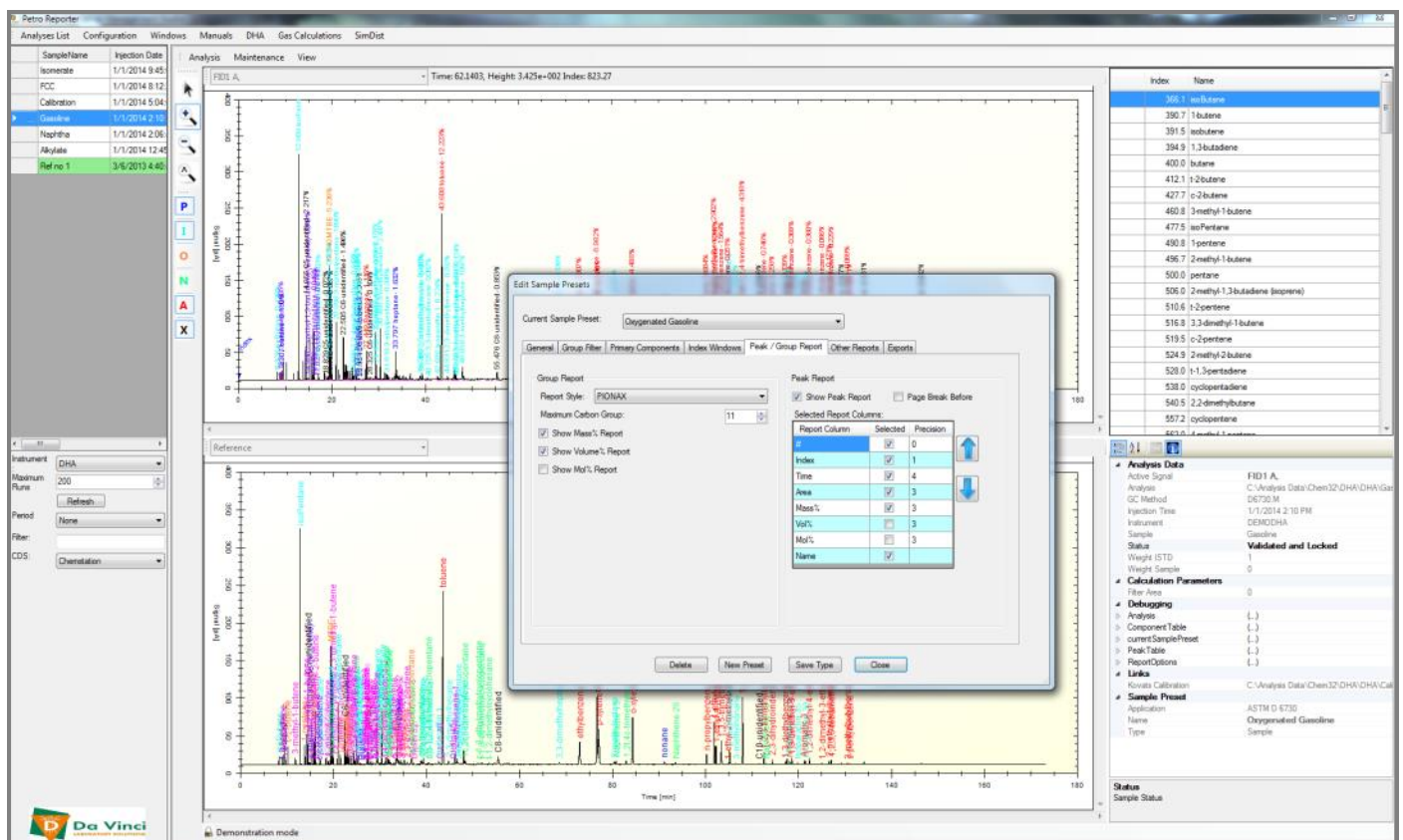


## Wide Range of Report Options

- Individual components list
- PIONA report in weight %, volume % and mol%
- TBP Report in °C or °F in 5% steps from IBP up to FBP
- Chromatogram plot of the peak labels over a user selectable time interval
- Properties summary:
  - Reid Vapor Pressure in psi at 38°C (100°F)
  - Specific Gravity at 16/16°C (60/60°F)
  - RON and MON values
  - Gross and Nett Heat of Combustion of liquid in Btu/lb at 25°C (77°F)
  - Bromine Number
- Export of TBP data to merge SimDist results and improve the front-end analysis of a crude oil

## Special Calculations Report for DHA ASTM D6730

Property	Value	Units
Specific Gravity	0.7521	at 60/60
Reid Vapor Pressure	5.4	psi
Motor Octane Number	89.4	
Research Octane Number	98.2	
Gross Heating Value	44,656.4	KJ/Kg at 25 °C
Nett Heating Value	41,886.5	KJ/Kg at 25 °C
Bromine Number	17.8	

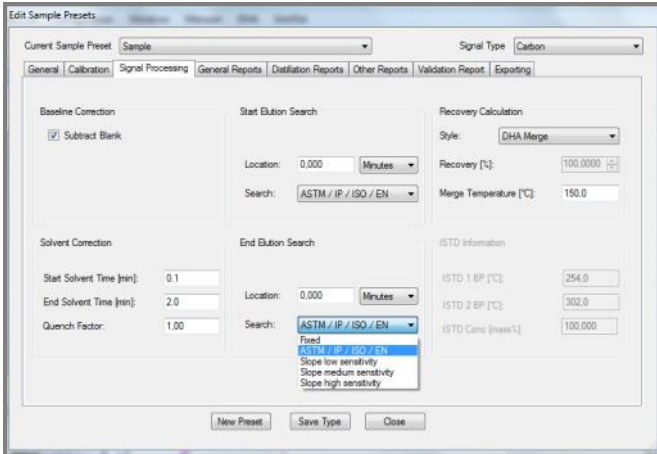


# SimDist Reports

## Generated with the DVLS PetroReporter

### On-Screen Editing

PetroReporter uses sample presets to preconfigure sample types. On-screen editing enables customized settings, resulting in automatically updated analyses.



Select the required model to generate a correlation report. The incorporated models in PetroReporter are:

- ASTM D86 Jet Fuel and Diesel (D2887)
- ASTM D86 according to STP 577
- ASTM D1160

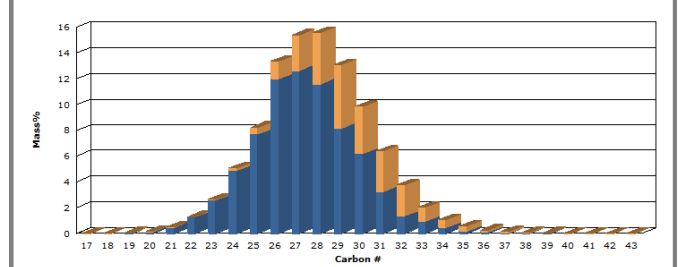
The interpolation of the correlation model can be set to:

- None
- Cubic spline
- Smooth fitting

### Wide Range of Report Options

- TBP Distribution Mass Percent report
- Chromatogram
- Alkanes Profile (ASTM D5442 Wax) report
- Cut Point Distribution report
- Flash Point Correlation report
- Motor Oil Volatility report
- Noack Evaporation Loss report
- Volume Correlation report (customizable)
- Volume Cut Point report (customizable)

Alkane Profile Report



### Special Calculations

Property	Results	Unit
ASTM D56 Flashpoint	76.7	Centigrade
Motor Oil Volatility	95.8	mass%
Din 51.581 (noack)	547.2	mass%

### Cut Point Distribution Report

BP °C	Recov Mass%	BP °C	Recov Mass%	BP °C	Recov Mass%	BP °C	Recov Mass%
119.1	0.5	200.0	7.6	280.0	46.7	360.0	93.1
140.0	1.1	220.0	13.1	300.0	60.7	380.0	97.2
160.0	2.2	240.0	21.2	320.0	75.2	400.0	99.0
180.0	4.3	260.0	32.6	340.0	84.9	413.6	99.5



# Gas Calculation Reports

## Generated with the DVLS PetroReporter

### Predefined Settings

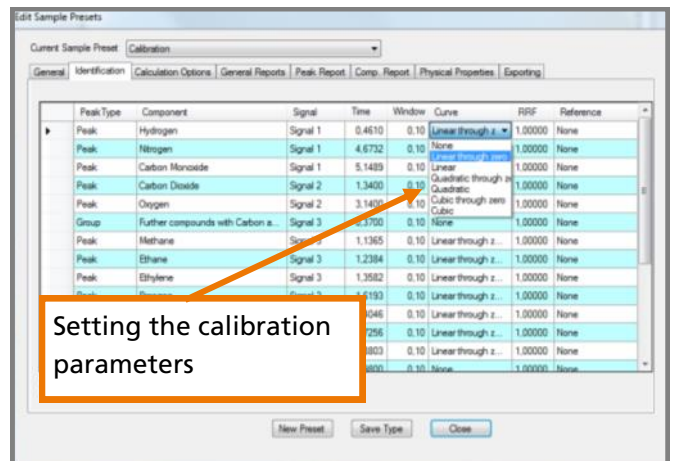
PetroReporter includes gas calculation modules for the following methods:

- ASTM D2163
- DIN 51.666
- EN 589, EN 15984
- GPA 2177, GPA 2186, GPA 2261, GPA 2286

Sample settings are predefined, such as calculation options and calibration parameters.

PetroReporter offers several calibration options:

- Single (Linear)
  - Linear through zero
  - Quadratic
  - Quadratic through zero
  - Cubic
  - Cubic through zero
- Relative Response factors
- Bridge factors (GPA 2286)



### Wide Range of Report Options

- Compressibility
- Carbon content
- Density
- Heat of combustion/heating value
- Liquid gallons per cubic feet of gas (GPM)
- Molecular weight
- Motor Octane Number
- Vapour Pressure (LPG)
- Wobbe Index
- Custom calculations

