SimDis Expert

Version 10

The Evolution of Excellence Continues

Separation Systems, Inc.
Experts in Gas Chromatography

The 'Gold' Standard

SimDis® Expert is considered the gold standard for GC simulated distillation software. Its rich set of capabilities and very intuitive graphical user interface have made the 'GC data to decision' workflow simple and straightforward since its introduction 20 years ago. And, with Version 10, SimDis® Expert is more powerful and flexible than ever.

SimDis® Expert meets or exceeds all of the requirements of existing and proposed standard simulated distillation test methods. It's fully compatible with all of today's chromatography data systems and can be tailored to your specific needs including support for selective detectors including FPD, PFPD, SCD, NCD and even MS. It's available for installation on a PC as a client or on a network server.

Like all of our software, SimDis® Expert is fully backed by a highly responsive support team with an unrivaled level of expertise in all of the GC and GC-MS based test methods used in the hydrocarbon processing industry today.

Key Capabilities of SimDis® Expert 10

- Supports all current and proposed standard test methods
- Utilizes a graphical user interface with straightforward analysis workflow
- Simulated Wax Analysis Report [Similar to ASTM D5442] **(NEW)**
- Cut points can be calculated as average molecular weight **(NEW)**
- Configurable automatic baseline selection [Before, After or Both] **(NEW)**
- The test method configuration screen now includes detailed information about the scope of the selected method, GC conditions, recommended standards, reference materials and consumables **(NEW)**
- Reports can be easily customized; ex. place boiling point curve and cut point table on a single page **(NEW)**
- Auto-configuring 'universal' software driver to support all GC chromatography data systems **(NEW)**
- Supports selective detectors (SCD, FPD, PFPD, AED) (Advanced Version) **(NEW)**
- Optional MS module for aromatics and saturates analysis (Advanced Version) **(NEW)**
- D86 and D1160 correlations
- Crude oil blending simulation model including aromatics and saturates analysis (ASA) (Advanced Version Only)
- Built in Merge Expert™ for DHA 'front end' correction of crude oil samples (Advanced Version)
- Full range of standard calculations: MOV, NOACK, Reid Vapor Pressure (RVP), CETANE index, sample average molecular weight and others.
- Built in peak integrator with expanded integration parameters to simplify data reprocessing
- Full range of standard report types as well as the ability to create your own custom reports
- Fully customizable cut points
- Peak skew and column resolution determination based on multiple peaks
- User access levels can be assigned to meet data security requirements
- Results can be automatically exported as delimited ASCII/CSV (LIMS), to Microsoft Excel, OpenOffice.
- Screen views can be exported to the Windows 'clipboard' or as Windows Enhanced Metafiles
- 'Intelligent' adjustment of the peak/elution detection algorithm; it 'learns' based on user defined elution marks
- Custom calculation formula editor for 'Interactive' distillation; ex. display the percentage distilled and temperature at any point of the chromatogram
- Special software programs can be executed automatically in the event of a QC failure (ex. send text message)

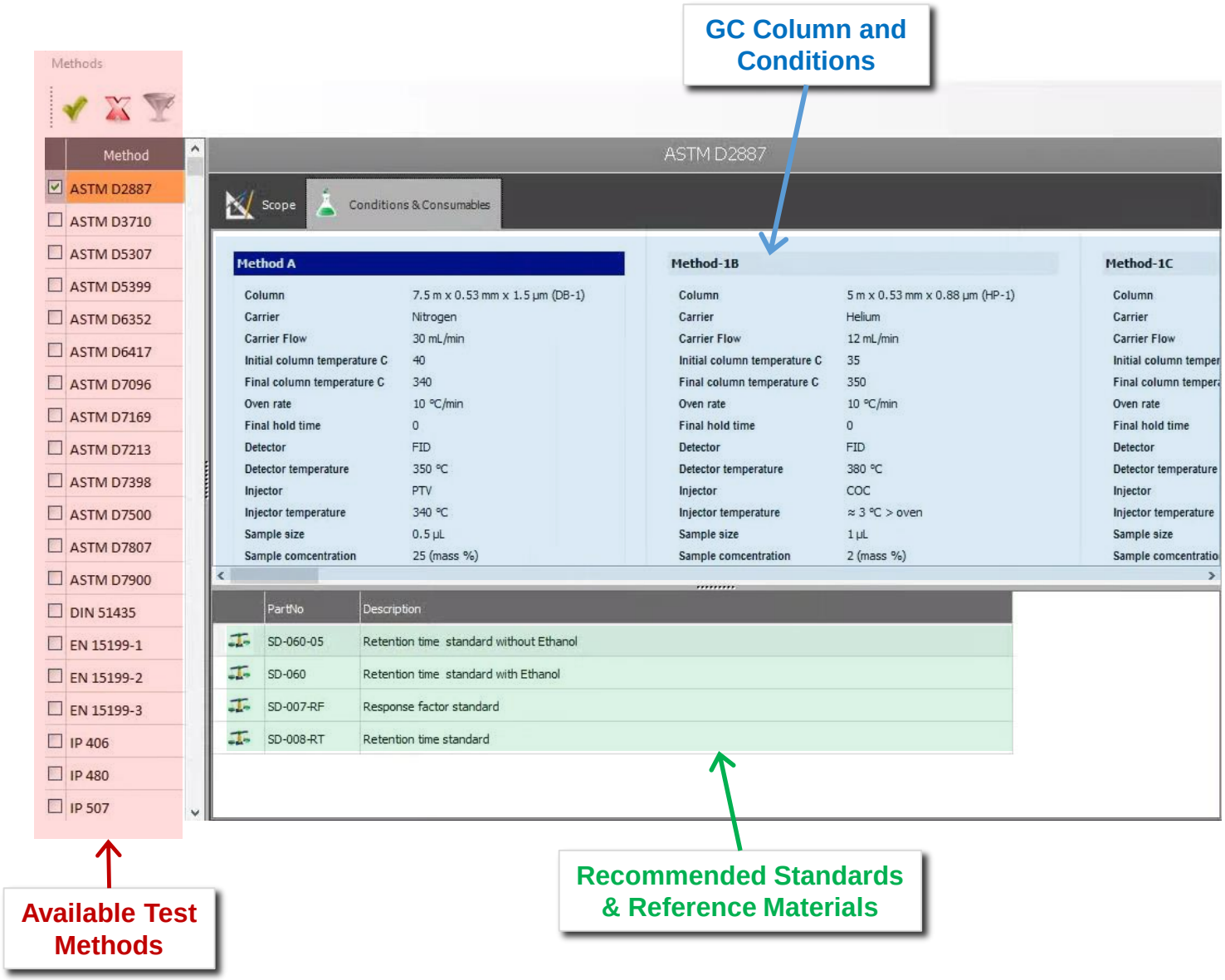
and much more……

Supports All Test Methods

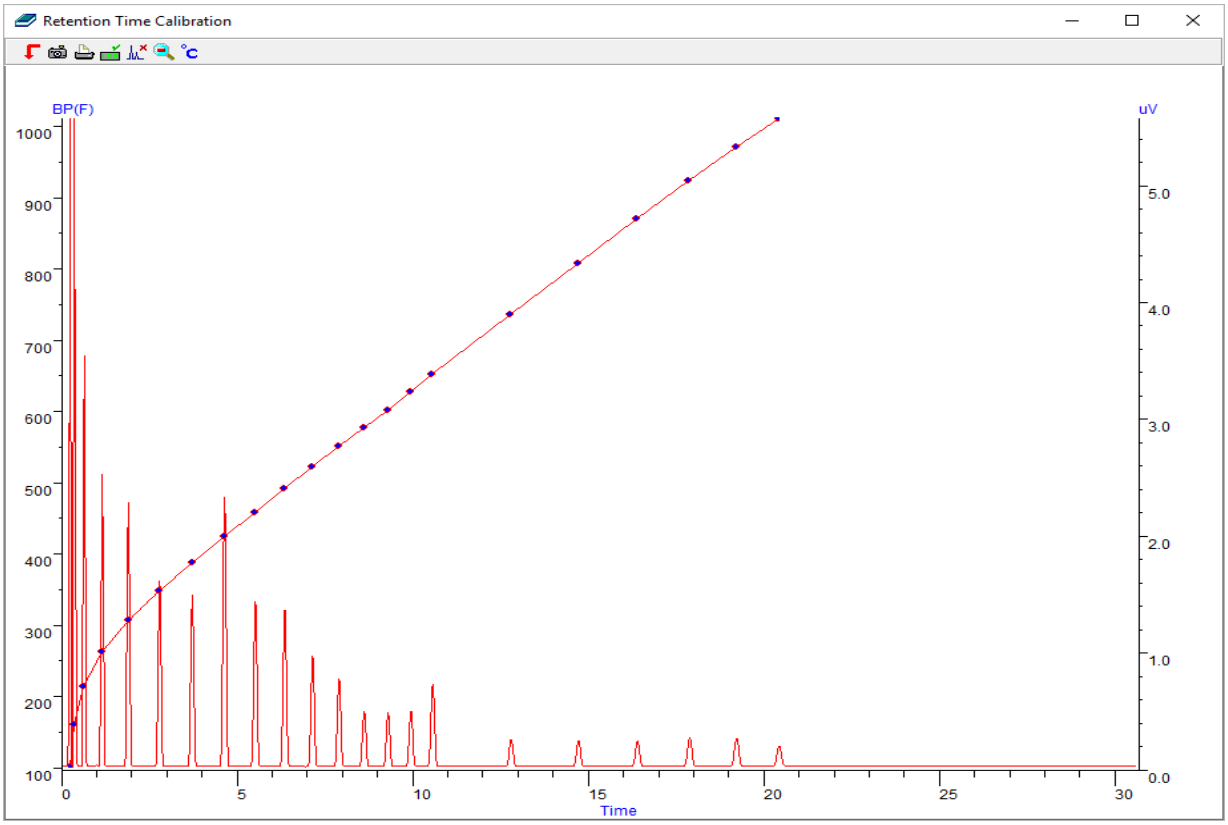
SimDis® Expert is Always Up to Date

SimDis® Expert is routinely updated to ensure it continually meets or exceeds our client's simulated distillation analysis requirements. Standard test methods are added as they're approved or once they've been deemed a proposed test method by the standards testing organization committee.

With the release of Version 10, GC operational conditions for each test method and a list of calibration standards and reference materials appropriate for the selected method is shown on the software's method setup window'. (see below)



Basic Capabilities



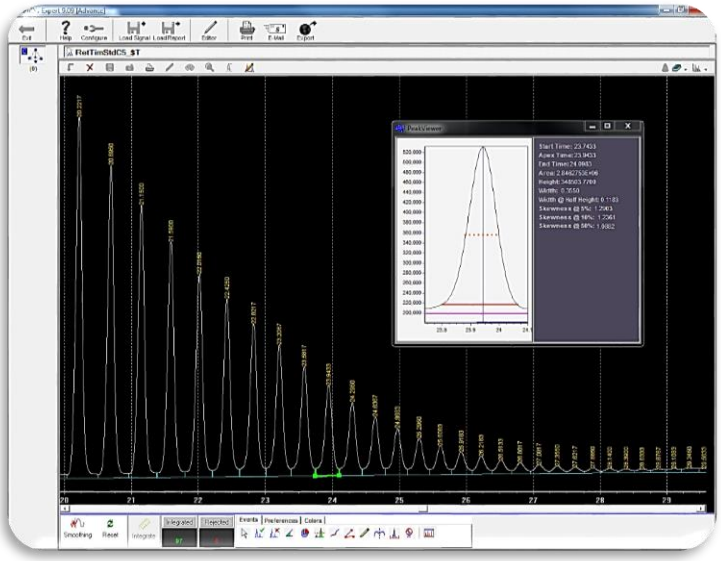
An example of a retention time calibration chromatogram with associated boiling point curve for ASTM D2887 (above) and the corresponding boiling point table with automatic skewness fit. (right)

Retention Time Calibration

Component	Time	BP(F)	Skewness
n-C5	0.198	97.0	
n-C6	0.332	156.0	
n-C7	0.613	209.2	
n-C8	1.126	259.0	
n-C9	1.872	304.0	
n-C10	2.763	345.4	
n-C11	3.696	385.0	
n-C12	4.618	421.3	
n-C13	5.495	455.7	
n-C14	6.337	489.0	1.07
n-C15	7.130	520.0	
n-C16	7.886	549.0	
n-C17	8.602	576.0	
n-C18	9.285	601.0	
n-C19	9.937	626.2	
n-C20	10.558	651.0	
n-C24	12.795	736.0	
n-C28	14.720	808.3	
n-C32	16.400	870.3	
n-C36	17.897	924.8	
n-C40	19.237	971.6	
n-C44	20.447	1013.0	

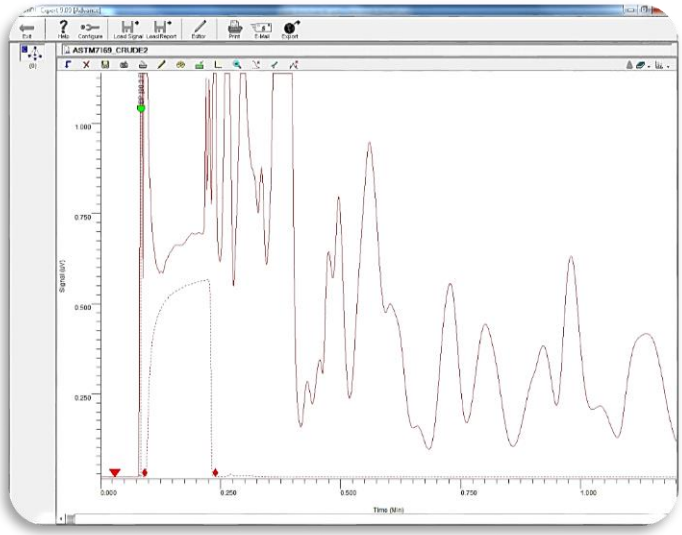
File	D:\Work\sde\Demo Files\Regular\D2887_Calib.SSF
Sample Id	SS3E02$T
LIMS Id	
Parameter File	D2887
Injection Date	1/5/2001 5:13:50 PM

Advanced Capabilities



Powerful Peak Integration

With the built-in integrator, making adjustments to peak integration is simple. There is no need to switch back and forth between the GC data acquisition system used to acquire the signals and SimDis Expert. You can stay within the SimDis Expert environment for all your reprocessing needs. This is especially useful handling retention time calibration standards containing heavy carbons such as n-C_{110} and n-C_{120}



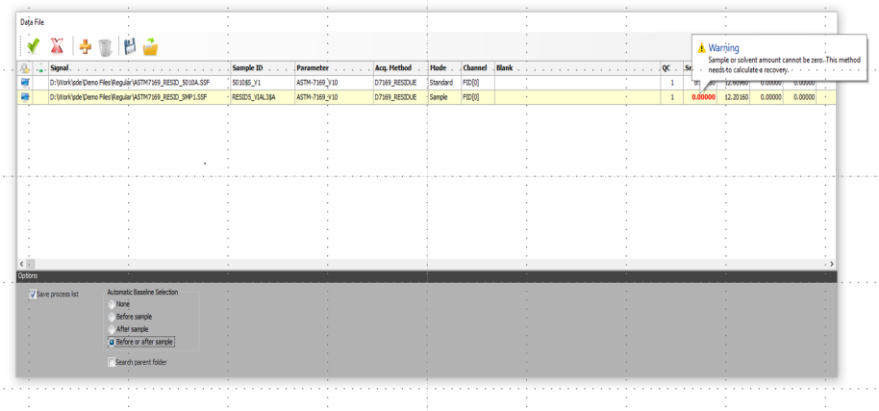
Solvent Quenching Tool

The software has an algorithm to automatically detect the quenching window which will change as the column ages. As such, the beginning and end of the solvent peak can be easily adjusted using the interactive graphical interface.

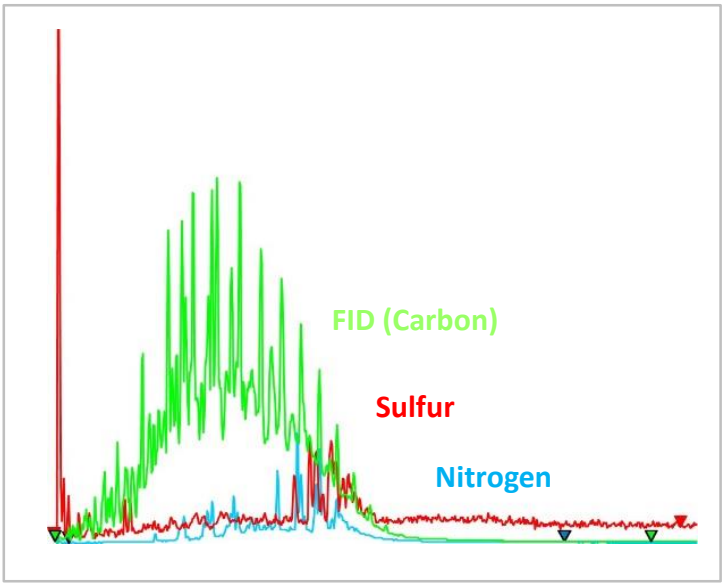
Automatic Baseline Determination

When loading a signal for interactive analysis, the software can automatically determine the most suitable baseline.

When the software is set up to operate in an unattended manner (automatic execution after each sample injection) the user can define whether samples should be corrected using the baseline obtained prior or using one acquired at a later time.



More Advanced Capabilities

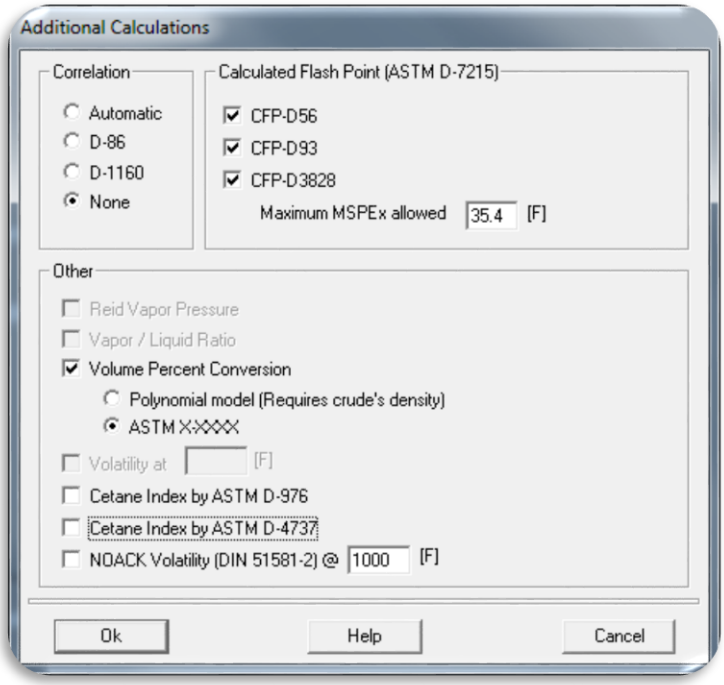


Selective Detector Capability

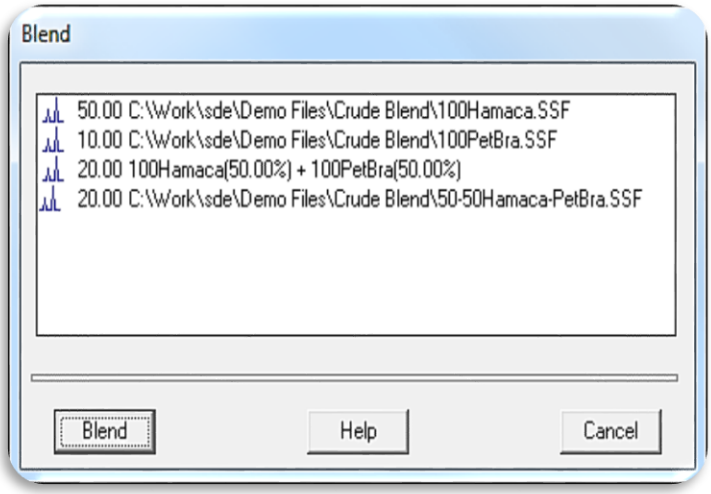
Seamlessly process signals from selective detector(s) in addition to the FID or in place of it. Extend traditional simulated distillation to sulfur (ex. ASTM D7807), nitrogen and other elements through the use of selective detectors such as SCD, NCD, FPD, PFPD, AED and MSD.

Advanced and Custom Calculations

Extend your analysis results through the use of additional calculations and/or formulas defined by the user.



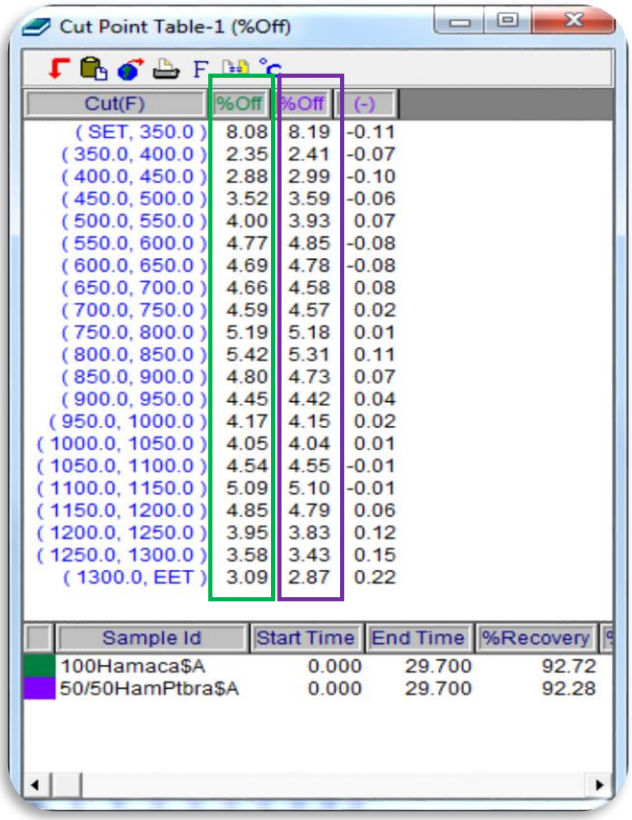
Crude Oil Blending Simulator

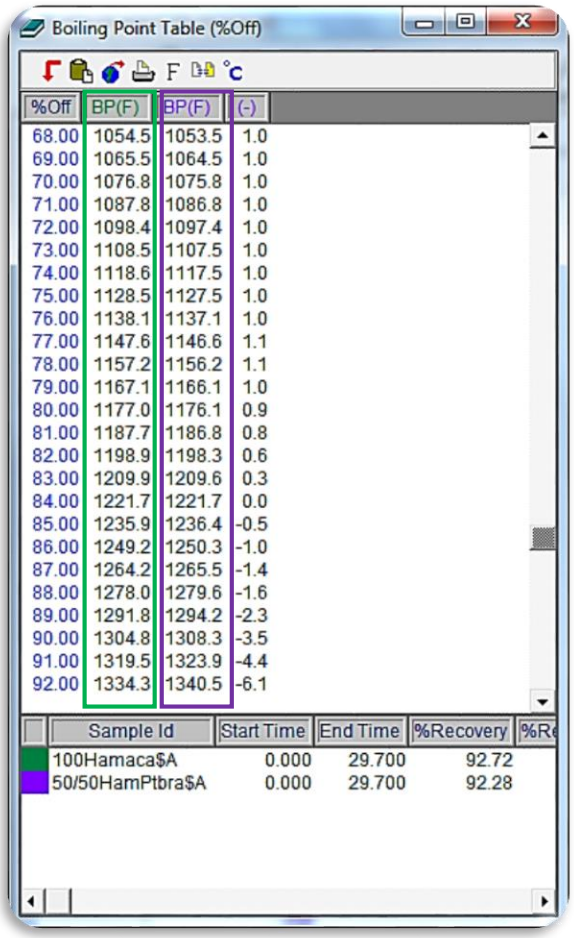


Available Blending Simulation Model for Crude Oil and Fully Eluting Materials

Save time and money by simulating a gravimetric blend comprised of up to 20 different samples. With a single click of the mouse the software creates a virtual signal and properties of the simulated gravimetric blend.

Accuracy of the simulated blend (**green box**) vs. the actual blend (**purple box**) below

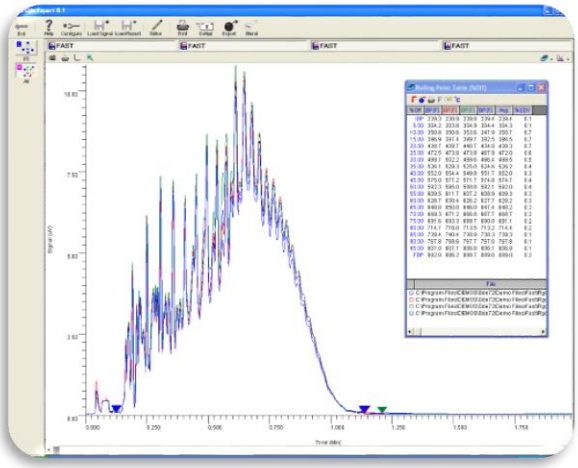


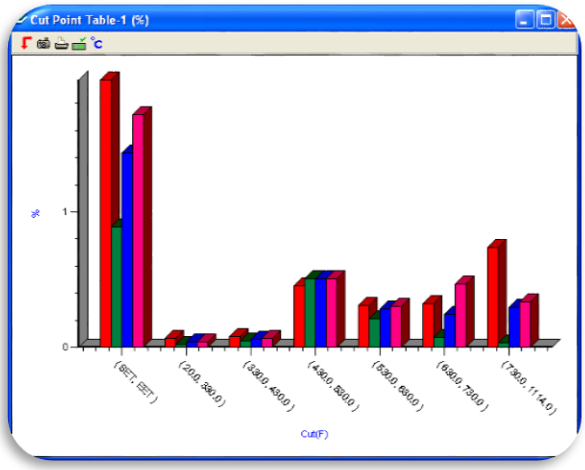


Powerful Yet Exceptionally Easy to Use

Exceptionally Easy to Use

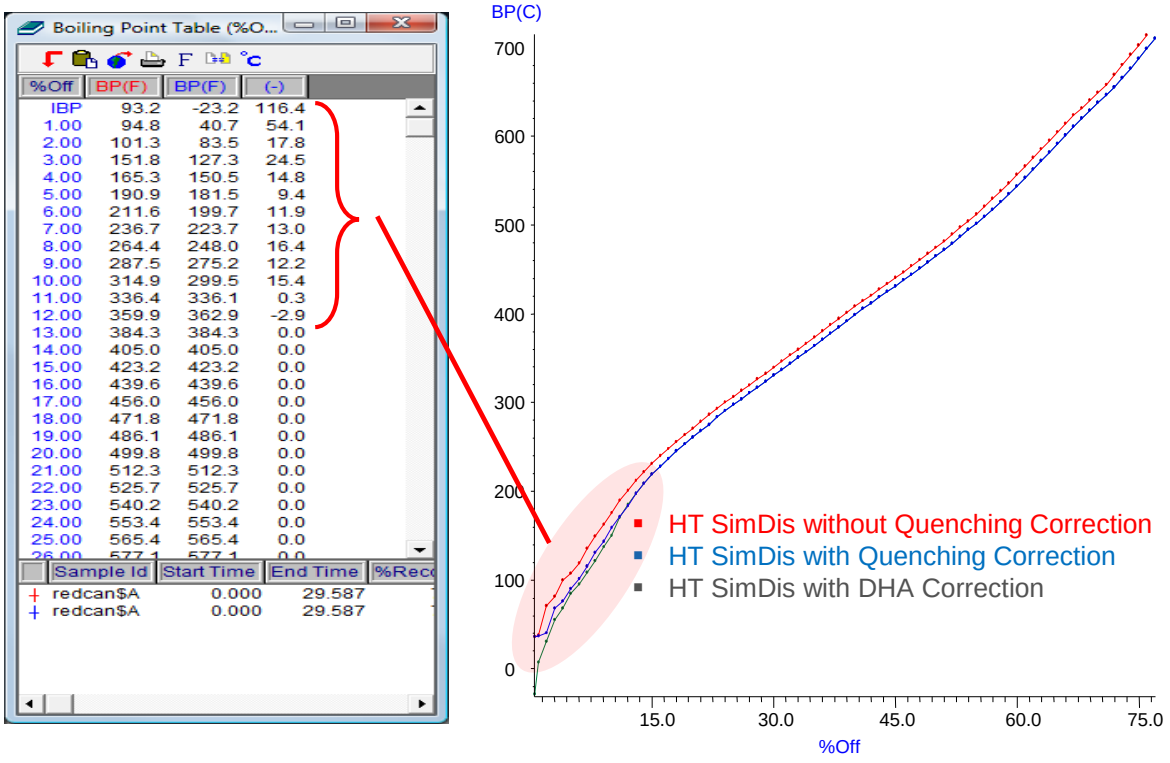
Highly intuitive graphical user interface makes it very easy to review data, compare signals, generate plots and apply custom calculations.





Boiling Point Curve 'Front End Correction' Using DHA Data

The boiling point curve for crude oil produced by high temperature simulated distillation can be corrected through the use of the included Merge Expert™ software (Advanced Version) to process boiling point data produced by a GC running any of the standard detailed hydrocarbon analysis (DHA) test methods



The one source for all your simulated distillation needs

www.separationsystems.com

About Us

We are a minority owned business located in Gulf Breeze, Florida. We offer GC and GC-MS based analysis systems, application software, consumables, support and training for petroleum refining, bio-fuels and petrochemical applications. Our systems are comprehensive in nature and include a GC or GC-MS, our own specialized hardware and software, reference & calibration standards, consumables, training and support.

While the majority of our systems are designed to meet the international standard testing method requirements (ex. ASTM, EN, ISO), we also design systems for special requirements including custom software.

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