Agilent OpenLAB Intelligent Reporter

Report Compendium

Overview

A key challenge laboratories are facing is to turn raw analytical data into meaningful and actionable information. Meaningful report generation is a daily activity that occupies analysts in all fields, including: Pharmaceutical, Hydrocarbon processing, Bioanalytical, Biofuels, Academic, Environmental, and Contract organizations to name a few. User's workflows require reporting tools that handle calculations of varying complexity, they may require aggregation of content from varied sources, and reports may need to be exchanged with internal or external collaborators, or used as official records for submission to regulatory agencies.

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A reporting engine that does not address these requirements, therefore, can severely impact results, regardless of the capability of the data system that produces the raw data. Agilent's OpenLAB Intelligent Reporter addresses the challenges as it allows users in the laboratory to easily create reporting templates for complex reports. In addition, OpenLAB Intelligent Reporter relies on common resources that can be used both by a scalable data system (OpenLAB CDS) as well as an Enterprise Content Management system (OpenLAB ECM).

This document is designed to provide an overview of the many different reports possible with Agilent OpenLAB Intelligent Reporter. For improved usability and expandability, the document consists of a Report Summary table—one for standard workstation, sequence based reports; the other for enterprise level, query-driven reports with links to more detailed views of each report. A brief description of each report, illustrative pages and many more detailed links are displayed in each section. At the end of each report section are links back to the main Report Summary table.

Report Summary Table

Standard – sequence based reports (OpenLAB CDS Intelligent Reporter)[1]

Title (Link)	Features	Users Benefitting	Applicable Industry
Dual Display	Dual channel displays different data perspectives	All	All
LC Diagnosis Report		Routine	All
Minor Component Analysis	Combined benefit of sensitive instrument with intelligent reporting	All	All
Performance Report	Column performance viewed from various λ using DAD	R&D, all	All
Simple Purity	Known/unknown peaks ratioed	All	All
Raw Material Purity	Known/unknown peaks ratioed	Mfg, production	Pharma; foods; Contract
Suitability & Stability	Extensive compound analysis	Regulated users	Pharma; Energy; Contract
Manual Integration Summary	Standards, QC, Samples, manual integration, statistics	Lab Manager	All
Seq Summary/Limits	Statistics, special calc	High throughput	All
Seq Summary/Long	Statistic, more detail	Routine	All
Structured Sequences	Defined sections; Sys Suit; Column Performance	Regulated users	Pharma; Environmental; Contract
BTU (Calorific Value) Calculation	Gross BTU/ft^3 value, average Molecular Weight, and Specific Gravity	Lab; field	Energy; HPI
Method Development Summary	Method and separation optimization; column, solvent usage; graphic displays	R&D; Lab Management	All
Impurity Profiling	System Suitability; Conditional formatting	R&D, QC	All

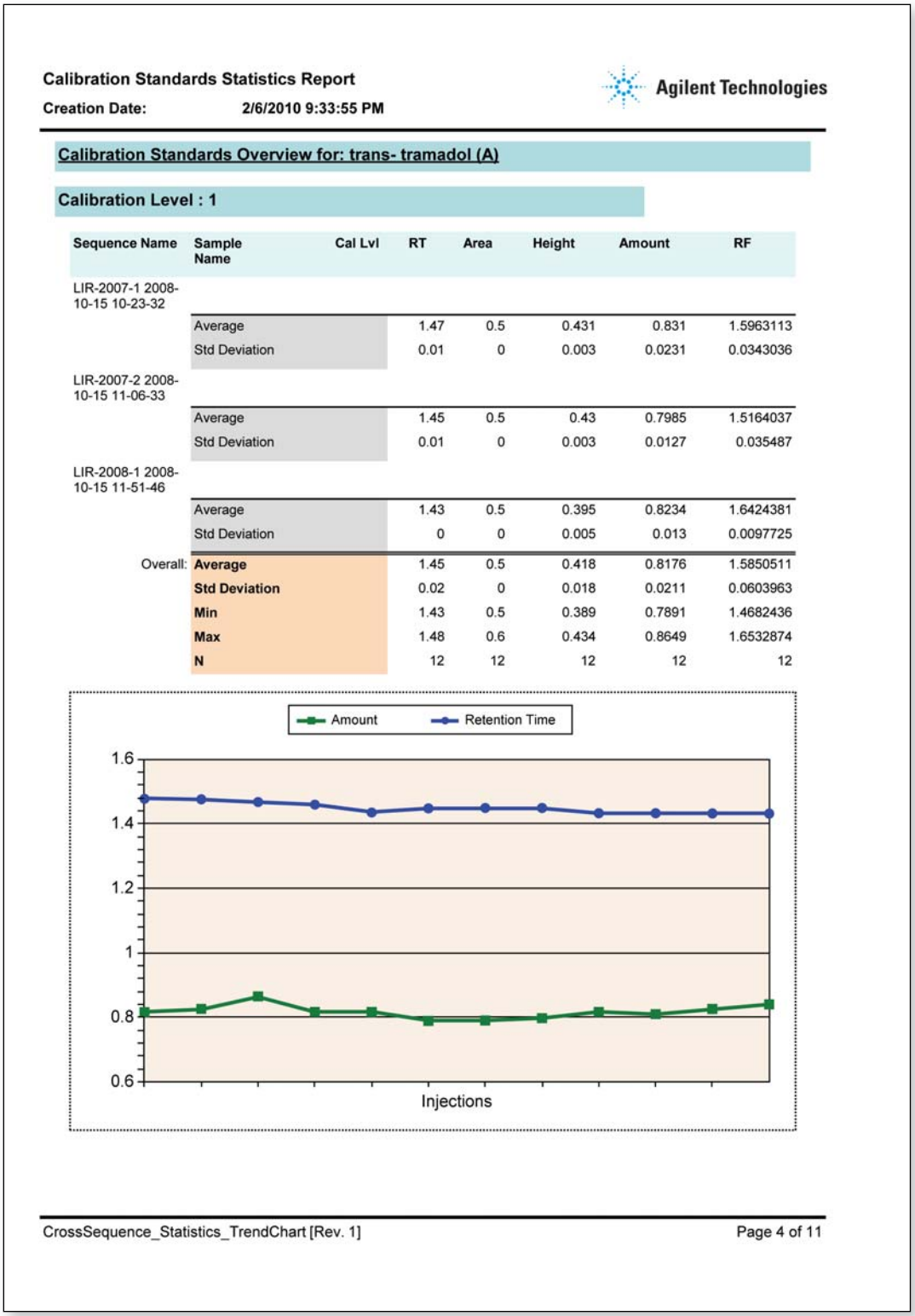
Enterprise level – central database, query-based (OpenLAB ECM Intelligent Reporter)[2]

Title (Link)	Features	Users Benefitting	Applicable Industry
Column Usage Check	Usage summaries, graphics, statistics	Lab Managers	All
Instrument Utilization	Administrative usage summary	IT dept	All
Dissolution Summary	Aggregate sample IDs; Stats	Regulated users	Pharma; Contract
Calibration Standards Report	Cross-sequence; Trend Charting; Statistics	Lab users	Pharma; Bio; Energy; Academic

1 All features shown are available in OpenLAB CDS; sequence based reports are portable to database, query-based OpenLAB ECM Intelligent Reporter.
2 Requires central database and query-based OpenLAB ECM Intelligent Reporter. The templates are often adaptable to OpenLAB CDS Intelligent Reporter. Check with your local specialist to ensure portability.

Calibration Standards Report

The report shown below was created using a template that was modified in Microsoft® Business Intelligence Studio. This illustrates how OpenLAB ECM Intelligent Reporter can aggregate results and information from different sequences stored in OpenLAB ECM. For single sequences, the same capability is available in OpenLAB CDS Intelligent Reporter.



Calibration Standards Statistics Report

Creation Date: 2/6/2010 9:33:55 PM

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Calibration Standards Overview for: trans- tramadol (A)

Calibration Level : 1

Sequence Name	Sample Name	Cal Lvl	RT	Area	Height	Amount	RF
LIR-2007-1 2008-10-15 10-23-32							
	Average		1.47	0.5	0.431	0.831	1.5963113
	Std Deviation		0.01	0	0.003	0.0231	0.0343036
LIR-2007-2 2008-10-15 11-06-33							
	Average		1.45	0.5	0.43	0.7985	1.5164037
	Std Deviation		0.01	0	0.003	0.0127	0.035487
LIR-2008-1 2008-10-15 11-51-46							
	Average		1.43	0.5	0.395	0.8234	1.6424381
	Std Deviation		0	0	0.005	0.013	0.0097725
Overall:	**Average**		1.45	0.5	0.418	0.8176	1.5850511
	Std Deviation		0.02	0	0.018	0.0211	0.0603963
	Min		1.43	0.5	0.389	0.7891	1.4682436
	Max		1.48	0.6	0.434	0.8649	1.6532874
	N		12	12	12	12	12

CrossSequence_Statistics_TrendChart [Rev. 1] Page 4 of 11

Calibration Standards Statistics Report

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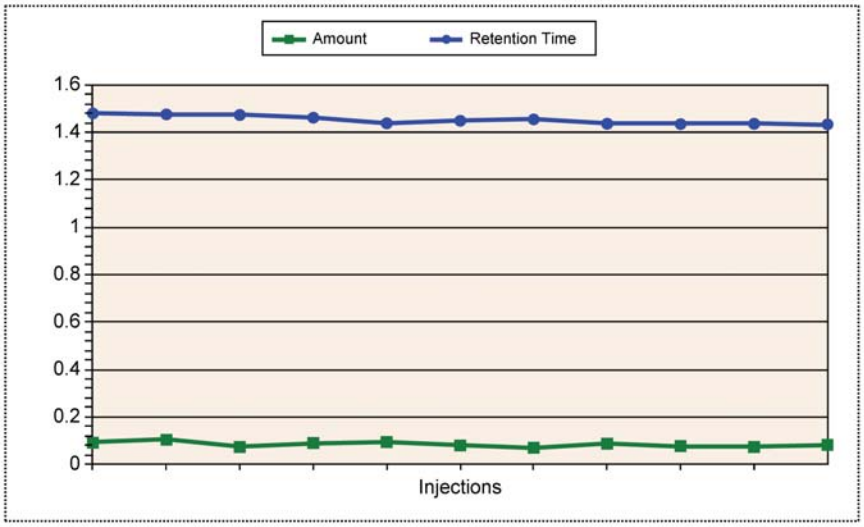
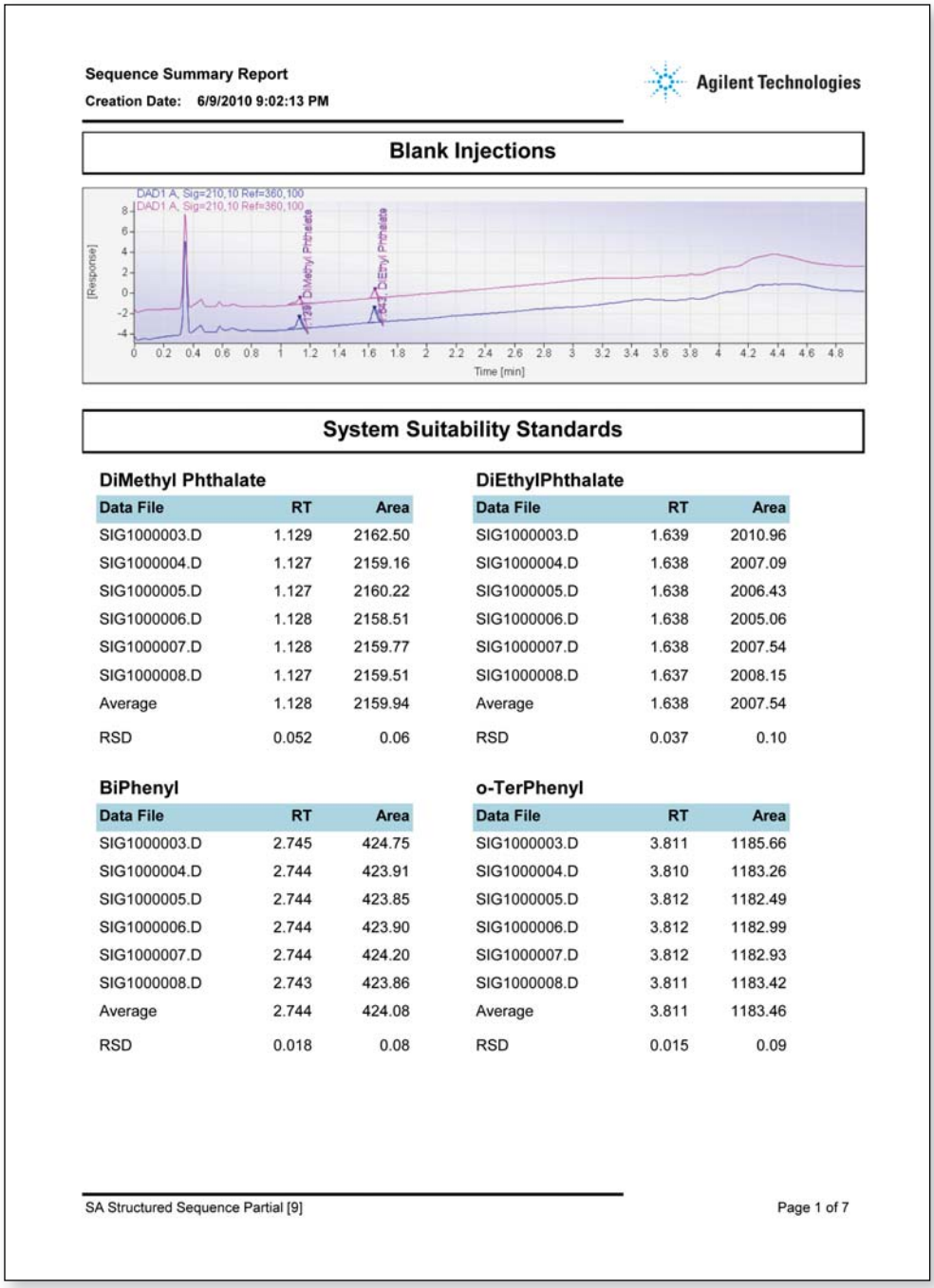
Calibration Level : 2

Sequence Name	Sample Name	Cal Lvl	RT	Area	Height	Amount	RF
LIR-2007-1 2008-10-15 10-23-32							
	Average		1.47	0.1	0.046	0.0894	1.4759325
	Std Deviation		0.01	0	0.003	0.0126	0.0262966
LIR-2007-2 2008-10-15 11-06-33							
	Average		1.45	0.1	0.041	0.0812	1.3962796
	Std Deviation		0.01	0	0.002	0.0122	0.067252
LIR-2008-1 2008-10-15 11-51-46							
	Average		1.43	0	0.04	0.0797	1.6222997
	Std Deviation		0	0	0.003	0.006	0.0399246
Overall:	**Average**		1.45	0.1	0.042	0.0836	1.5074334
	Std Deviation		0.02	0	0.004	0.0104	0.1047444
	Min		1.43	0	0.037	0.0699	1.3294235
	Max		1.48	0.1	0.05	0.1037	1.6567221
	N		11	11	11	11	11



Structured Sequences

This example is ideal for more complex analyses or in regulated laboratories. The user can create structured data sets which must be reported in a series of structured report sections. In this case we show the analysis of phthalates and partition the report template into a graphic region showing a blank run in 2 channel overlaid mode, followed by a tabular section with summary and statistics for only System Suitability standards, then another tabular section with performance parameters for target phthalates. The OpenLAB Intelligent Reporter makes it easy to create specific subsets of injections within the sequence, calculate and format appropriate report sections, and assemble the sections into a complete report for the sequence.



Sequence Summary Report

Creation Date: 6/9/2010 9:02:13 PM

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Blank Injections

System Suitability Standards

DiMethyl Phthalate

Data File	RT	Area
SIG1000003.D	1.129	2162.50
SIG1000004.D	1.127	2159.16
SIG1000005.D	1.127	2160.22
SIG1000006.D	1.128	2158.51
SIG1000007.D	1.128	2159.77
SIG1000008.D	1.127	2159.51
Average	1.128	2159.94
RSD	0.052	0.06

DiEthylPhthalate

Data File	RT	Area
SIG1000003.D	1.639	2010.96
SIG1000004.D	1.638	2007.09
SIG1000005.D	1.638	2006.43
SIG1000006.D	1.638	2005.06
SIG1000007.D	1.638	2007.54
SIG1000008.D	1.637	2008.15
Average	1.638	2007.54
RSD	0.037	0.10

BiPhenyl

Data File	RT	Area
SIG1000003.D	2.745	424.75
SIG1000004.D	2.744	423.91
SIG1000005.D	2.744	423.85
SIG1000006.D	2.744	423.90
SIG1000007.D	2.744	424.20
SIG1000008.D	2.743	423.86
Average	2.744	424.08
RSD	0.018	0.08

o-TerPhenyl

Data File	RT	Area
SIG1000003.D	3.811	1185.66
SIG1000004.D	3.810	1183.26
SIG1000005.D	3.812	1182.49
SIG1000006.D	3.812	1182.99
SIG1000007.D	3.812	1182.93
SIG1000008.D	3.811	1183.42
Average	3.811	1183.46
RSD	0.015	0.09

SA Structured Sequence Partial [9]

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Sequence Summary Report

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Resolution Standard

DataFileName

SIG1000008.D

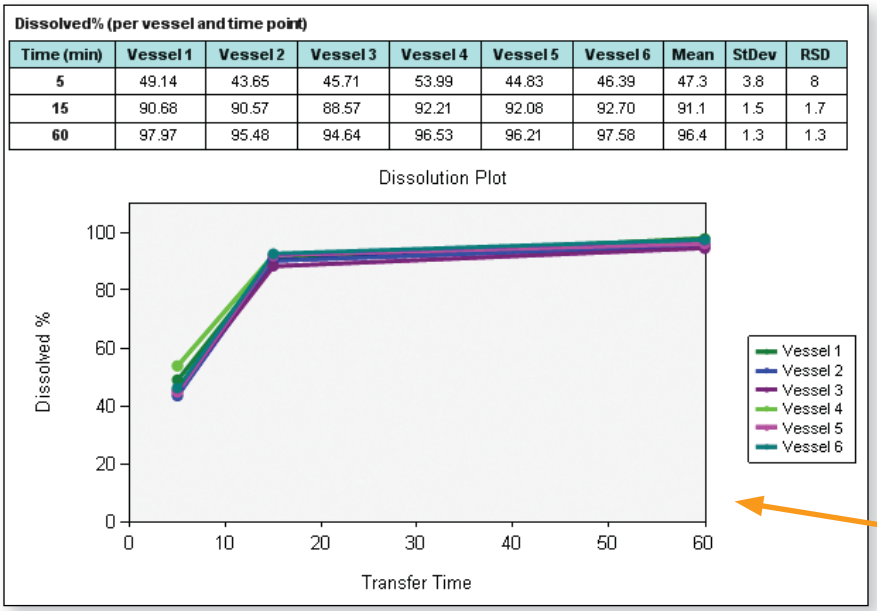
Name	RT	Area	Plates	Resolution	Tailing
DiMethyl Phthalate	1.127	2159.5122	5249	3.86	1.07
DiEthyl Phthalate	1.637	2008.1476	8924	3.94	1.05
BiPhenyl	2.743	423.8644	18814	14.81	1.03
o-TerPhenyl	3.811	1183.4171	38410	13.53	1.02

Dissolution Summary

Routine dissolution testing of pharmaceutical products can be tedious from the post-analysis, data handling perspective. The OpenLAB Intelligent Reporter enables the analyst to quickly organize results by vessel and sampling time point, perform statistics, and generate graphic views that clearly show compound dissolution over time. In addition, volume compensation is possible when aliquots reach the threshold specified by pharmacopeia norms. The extract below shows the summary and graphic displays possible. The specific example utilizes an aggregation capability available in OpenLAB ECM Intelligent Reporter. An added benefit could be that of Interactive Fields enabling the reviewer to choose data display options prior to printing the report (e.g. the aliquot time or vessel numbers could be interactive). An adaptation of this template enables usability in a smaller deployment. These capabilities prove valuable in determining the bioavailability of drugs in the QA/QC setting.

Dissolved% (per vessel and time point)

Time (min)	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5	Vessel 6	Mean	StDev	RSD
5	49.14	43.65	45.71	53.99	44.83	46.39	47.3	3.8	8
15	90.68	90.57	88.57	92.21	92.08	92.70	91.1	1.5	1.7
60	97.97	95.48	94.64	96.53	96.21	97.58	96.4	1.3	1.3



A **Summary Table** displays the dissolution results per transfer time and vessel with statistical calculations.

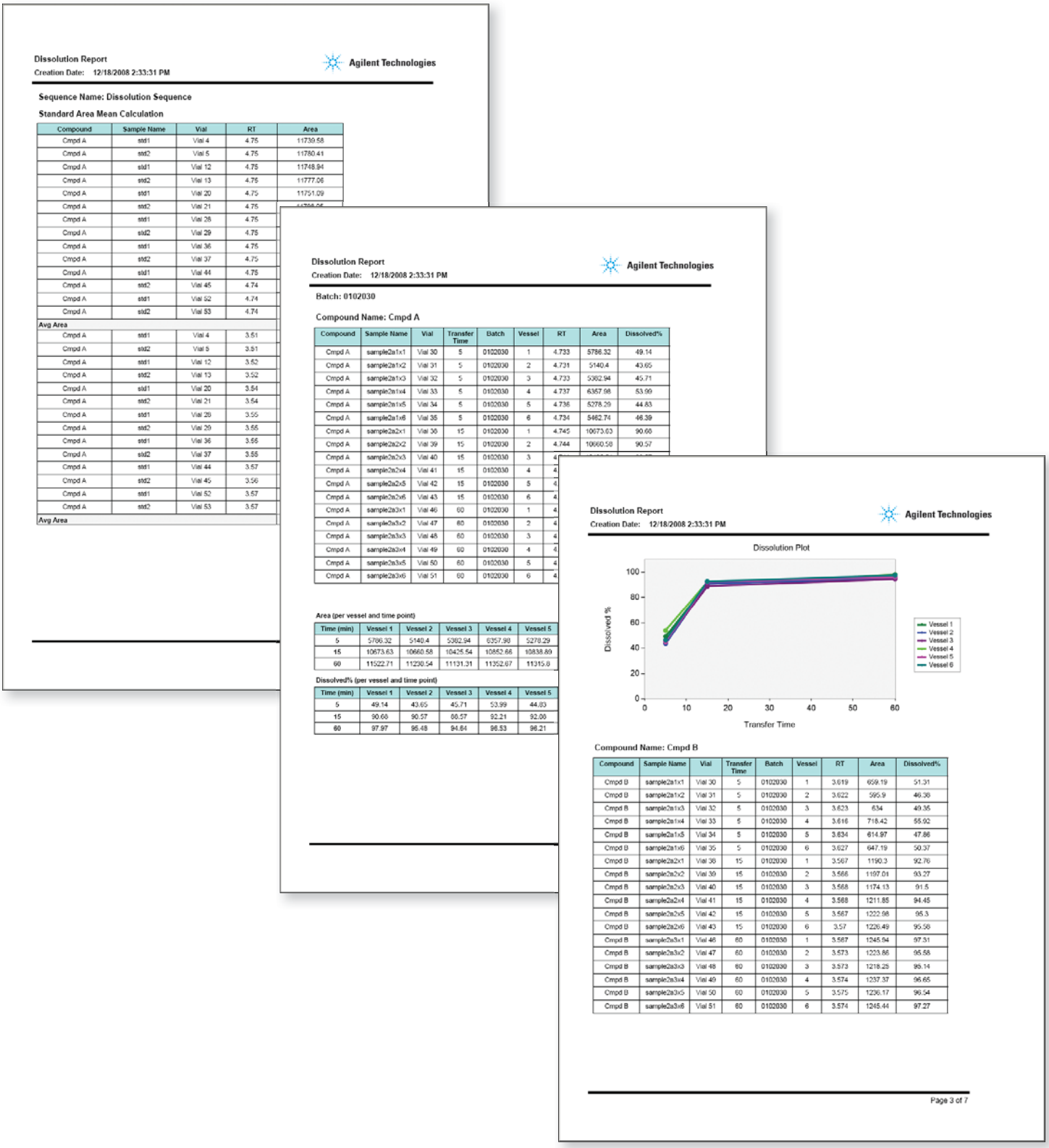
The **Dissolution Plot** displays the dissolution results for each vessel over the time course.

Compound Name: Cmpd A

Compound	SampleName	Vial	Transfer Time	Batch	Vessel	RT	Area	Dissolved%
Cmpd A	sample2a1x1	Vial 30	5	0102030	1	4.733	5786.32	49.14
Cmpd A	sample2a1x2	Vial 31	5	0102030	2	4.731	5140.4	43.65
Cmpd A	sample2a1x3	Vial 32	5	0102030	3	4.733	5382.94	45.71
Cmpd A	sample2a1x4	Vial 33	5	0102030	4	4.737	6357.98	53.99
Cmpd A	sample2a1x5	Vial 34	5	0102030	5	4.736	5278.29	44.83
Cmpd A	sample2a1x6	Vial 35	5	0102030	6	4.734	5462.74	46.39
Cmpd A	sample2a2x1	Vial 38	15	0102030	1	4.745	10673.63	90.68
Cmpd A	sample2a2x2	Vial 39	15	0102030	2	4.744	10660.58	90.57
Cmpd A	sample2a2x3	Vial 40	15	0102030	3	4.741	10425.54	88.57
Cmpd A	sample2a2x4	Vial 41	15	0102030	4	4.745	10852.66	92.21
Cmpd A	sample2a2x5	Vial 42	15	0102030	5	4.744	10836.89	92.08
Cmpd A	sample2a2x6	Vial 43	15	0102030	6	4.746	10911.66	92.70
Cmpd A	sample2a3x1	Vial 46	60	0102030	1	4.743	11522.71	97.97
Cmpd A	sample2a3x2	Vial 47	60	0102030	2	4.745	11230.54	95.48
Cmpd A	sample2a3x3	Vial 48	60	0102030	3	4.742	11131.31	94.64
Cmpd A	sample2a3x4	Vial 49	60	0102030	4	4.746	11352.67	96.53
Cmpd A	sample2a3x5	Vial 50	60	0102030	5	4.744	11315.80	96.21
Cmpd A	sample2a3x6	Vial 51	60	0102030	6	4.744	11477.79	97.58

A **Table** shows the dissolution percentage for each sample.

The final output combines tabular and graphic results in a multi-page report.



Dissolution Report
Creation Date: 12/18/2008 2:33:31 PM

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Sequence Name: Dissolution Sequence

Standard Area Mean Calculation

Compound	Sample Name	Vial	RT	Area
Cmpd A	std1	Vial 4	4.75	11739.58
Cmpd A	std2	Vial 5	4.75	11780.41
Cmpd A	std1	Vial 12	4.75	11748.94
Cmpd A	std2	Vial 13	4.75	11777.06
Cmpd A	std1	Vial 20	4.75	11751.09
Cmpd A	std2	Vial 21	4.75	
Cmpd A	std1	Vial 28	4.75	
Cmpd A	std2	Vial 29	4.75	
Cmpd A	std1	Vial 36	4.75	
Cmpd A	std2	Vial 37	4.75	
Cmpd A	std1	Vial 44	4.75	
Cmpd A	std2	Vial 45	4.74	
Cmpd A	std1	Vial 52	4.74	
Cmpd A	std2	Vial 53	4.74	
Avg Area				
Cmpd A	std1	Vial 4	3.51	
Cmpd A	std2	Vial 5	3.51	
Cmpd A	std1	Vial 12	3.52	
Cmpd A	std2	Vial 13	3.52	
Cmpd A	std1	Vial 20	3.54	
Cmpd A	std2	Vial 21	3.54	
Cmpd A	std1	Vial 28	3.55	
Cmpd A	std2	Vial 29	3.55	
Cmpd A	std1	Vial 36	3.55	
Cmpd A	std2	Vial 37	3.55	
Cmpd A	std1	Vial 44	3.57	
Cmpd A	std2	Vial 45	3.56	
Cmpd A	std1	Vial 52	3.57	
Cmpd A	std2	Vial 53	3.57	
Avg Area				

Dissolution Report
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Batch: 0102030

Compound Name: Cmpd A

Compound	Sample Name	Vial	Transfer Time	Batch	Vessel	RT	Area	Dissolved%
Cmpd A	sample2a1x1	Vial 30	5	0102030	1	4.733	5786.32	49.14
Cmpd A	sample2a1x2	Vial 31	5	0102030	2	4.731	5140.4	43.65
Cmpd A	sample2a1x3	Vial 32	5	0102030	3	4.733	5382.94	45.71
Cmpd A	sample2a1x4	Vial 33	5	0102030	4	4.737	6357.98	53.99
Cmpd A	sample2a1x5	Vial 34	5	0102030	5	4.736	5278.29	44.83
Cmpd A	sample2a1x6	Vial 35	5	0102030	6	4.734	5462.74	46.39
Cmpd A	sample2a2x1	Vial 38	15	0102030	1	4.745	10673.63	90.68
Cmpd A	sample2a2x2	Vial 39	15	0102030	2	4.744	10660.58	90.57
Cmpd A	sample2a2x3	Vial 40	15	0102030	3	4		
Cmpd A	sample2a2x4	Vial 41	15	0102030	4	4		
Cmpd A	sample2a2x5	Vial 42	15	0102030	5	4		
Cmpd A	sample2a2x6	Vial 43	15	0102030	6	4		
Cmpd A	sample2a3x1	Vial 46	60	0102030	1	4		
Cmpd A	sample2a3x2	Vial 47	60	0102030	2	4		
Cmpd A	sample2a3x3	Vial 48	60	0102030	3	4		
Cmpd A	sample2a3x4	Vial 49	60	0102030	4	4		
Cmpd A	sample2a3x5	Vial 50	60	0102030	5	4		
Cmpd A	sample2a3x6	Vial 51	60	0102030	6	4		

Area (per vessel and time point)

Time (min)	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5
5	5786.32	5140.4	5382.94	6357.98	5278.29
15	10673.63	10660.58	10425.54	10852.66	10838.89
60	11522.71	11230.54	11131.31	11352.67	11315.8

Dissolved% (per vessel and time point)

Time (min)	Vessel 1	Vessel 2	Vessel 3	Vessel 4	Vessel 5
5	49.14	43.65	45.71	53.99	44.83
15	90.68	90.57	88.57	92.21	92.08
60	97.97	95.48	94.64	96.53	96.21

Dissolution Report
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Dissolution Plot

Compound Name: Cmpd B

Compound	Sample Name	Vial	Transfer Time	Batch	Vessel	RT	Area	Dissolved%
Cmpd B	sample2a1x1	Vial 30	5	0102030	1	3.619	659.19	51.31
Cmpd B	sample2a1x2	Vial 31	5	0102030	2	3.622	595.9	46.38
Cmpd B	sample2a1x3	Vial 32	5	0102030	3	3.623	634	49.35
Cmpd B	sample2a1x4	Vial 33	5	0102030	4	3.616	718.42	55.92
Cmpd B	sample2a1x5	Vial 34	5	0102030	5	3.634	614.97	47.86
Cmpd B	sample2a1x6	Vial 35	5	0102030	6	3.627	647.19	50.37
Cmpd B	sample2a2x1	Vial 38	15	0102030	1	3.567	1190.3	92.76
Cmpd B	sample2a2x2	Vial 39	15	0102030	2	3.566	1197.01	93.27
Cmpd B	sample2a2x3	Vial 40	15	0102030	3	3.568	1174.13	91.5
Cmpd B	sample2a2x4	Vial 41	15	0102030	4	3.568	1211.85	94.45
Cmpd B	sample2a2x5	Vial 42	15	0102030	5	3.567	1222.98	95.3
Cmpd B	sample2a2x6	Vial 43	15	0102030	6	3.57	1226.49	95.58
Cmpd B	sample2a3x1	Vial 46	60	0102030	1	3.587	1245.94	97.31
Cmpd B	sample2a3x2	Vial 47	60	0102030	2	3.573	1223.86	95.58
Cmpd B	sample2a3x3	Vial 48	60	0102030	3	3.573	1218.25	95.14
Cmpd B	sample2a3x4	Vial 49	60	0102030	4	3.574	1237.37	96.65
Cmpd B	sample2a3x5	Vial 50	60	0102030	5	3.575	1236.17	96.54
Cmpd B	sample2a3x6	Vial 51	60	0102030	6	3.574	1245.44	97.27

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Dual Chromatogram

The ability to easily display different perspectives of the same data file enables the analyst to gain a better understanding and improve actionable knowledge about the sample. In this example two graphic regions are displayed. The overall chromatogram is on top. A more focused region on the bottom. In this way peak distortion, or the appearance of an unexpected component, such as the small peak at 1.345 minutes, may indicate a problem with the sample.

Sample Report

Creation Date: **3/26/2010 3:38:37 PM**

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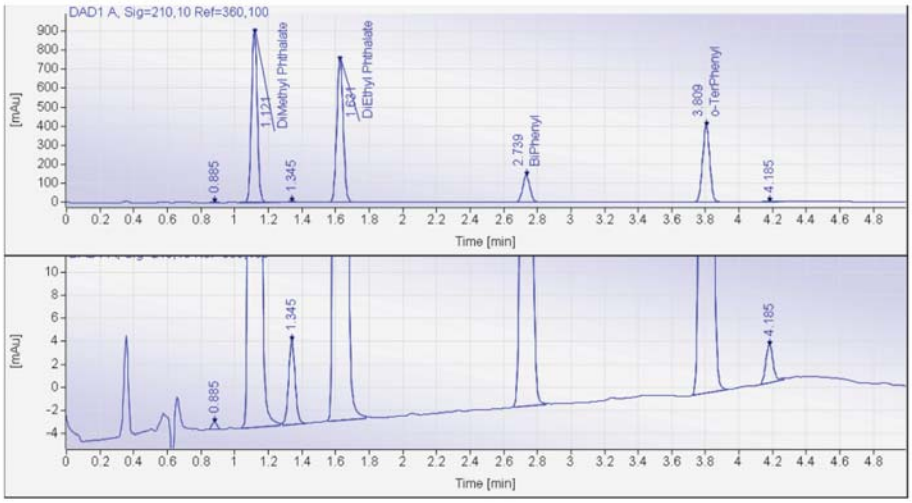
Instrument:	AglTrnLab1412		
Inj. Date/Time:	4/11/2007 9:58:20 PM	**Operator:**	RM
Acq. Method:	CSEXAMPLE.M	**Injection:**	1 of 1
Proc Method:	CSEXAMPLE.M	**Data file:**	SIG1000019.D
Inj. Volume:	5		



Sample Name: AglTrnLab1412

Name	Signal	RT	Area	Height	Amount	Unit
DiMethyl Phthalate	DAD1A	1.121	2168.8835	908.1318	10.284	ng/ul
DiEthyl Phthalate	DAD1A	1.631	2015.7975	757.8688	11.601	ng/ul
BiPhenyl	DAD1A	2.739	425.5811	140.9147	9.870	ng/ul
o-TerPhenyl	DAD1A	3.809	1187.6146	405.9807	10.420	ng/ul

SA Simple 2Chrom Sample [1]

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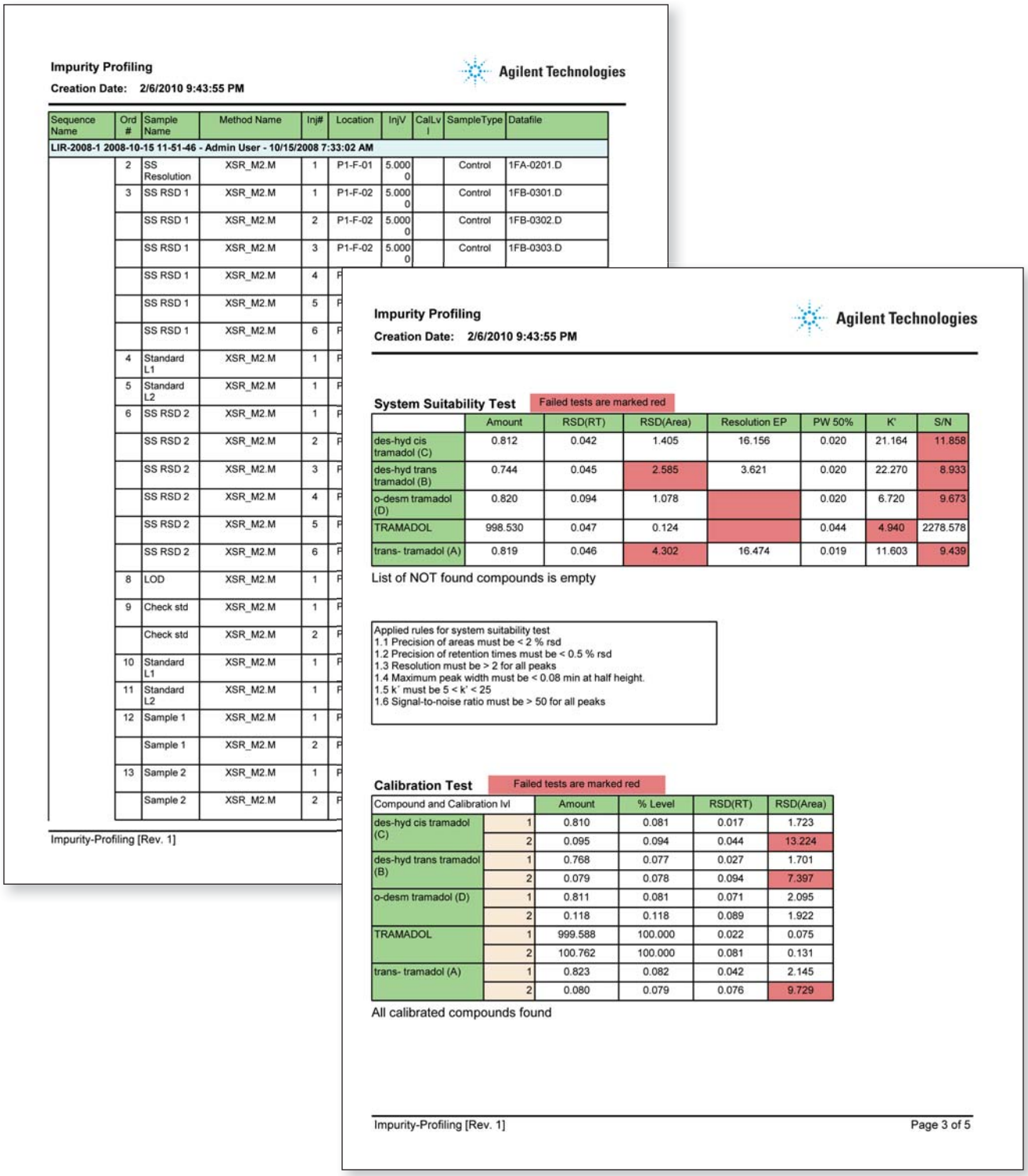
Impurity Profiling

This report takes full advantage of the OpenLAB Intelligent Reporter capability to provide fully automated, self-documenting reports with conditional formatting that highlights anomalous or out-of-specification results requiring attention or further action.



Impurity Profiling

Creation Date: 2/6/2010 9:43:55 PM

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Sequence Name	Ord #	Sample Name	Method Name	Inj#	Location	InjV	CalLvl	SampleType	Datafile
LIR-2008-1 2008-10-15 11-51-46 - Admin User - 10/15/2008 7:33:02 AM									
	2	SS Resolution	XSR_M2.M	1	P1-F-01	5.000 0		Control	1FA-0201.D
	3	SS RSD 1	XSR_M2.M	1	P1-F-02	5.000 0		Control	1FB-0301.D
		SS RSD 1	XSR_M2.M	2	P1-F-02	5.000 0		Control	1FB-0302.D
		SS RSD 1	XSR_M2.M	3	P1-F-02	5.000 0		Control	1FB-0303.D
		SS RSD 1	XSR_M2.M	4	F				
		SS RSD 1	XSR_M2.M	5	F				
		SS RSD 1	XSR_M2.M	6	F				
	4	Standard L1	XSR_M2.M	1	F				
	5	Standard L2	XSR_M2.M	1	F				
	6	SS RSD 2	XSR_M2.M	1	F				
		SS RSD 2	XSR_M2.M	2	F				
		SS RSD 2	XSR_M2.M	3	F				
		SS RSD 2	XSR_M2.M	4	F				
		SS RSD 2	XSR_M2.M	5	F				
		SS RSD 2	XSR_M2.M	6	F				
	8	LOD	XSR_M2.M	1	F				
	9	Check std	XSR_M2.M	1	F				
		Check std	XSR_M2.M	2	F				
	10	Standard L1	XSR_M2.M	1	F				
	11	Standard L2	XSR_M2.M	1	F				
	12	Sample 1	XSR_M2.M	1	F				
		Sample 1	XSR_M2.M	2	F				
	13	Sample 2	XSR_M2.M	1	F				
		Sample 2	XSR_M2.M	2	F				

Impurity-Profiling [Rev. 1]

Impurity Profiling

Creation Date: 2/6/2010 9:43:55 PM

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System Suitability Test Failed tests are marked red

	Amount	RSD(RT)	RSD(Area)	Resolution EP	PW 50%	K'	S/N
des-hyd cis tramadol (C)	0.812	0.042	1.405	16.156	0.020	21.164	11.858
des-hyd trans tramadol (B)	0.744	0.045	2.585	3.621	0.020	22.270	8.933
o-desm tramadol (D)	0.820	0.094	1.078		0.020	6.720	9.673
TRAMADOL	998.530	0.047	0.124		0.044	4.940	2278.578
trans- tramadol (A)	0.819	0.046	4.302	16.474	0.019	11.603	9.439

List of NOT found compounds is empty

Applied rules for system suitability test
1.1 Precision of areas must be < 2 % rsd
1.2 Precision of retention times must be < 0.5 % rsd
1.3 Resolution must be > 2 for all peaks
1.4 Maximum peak width must be < 0.08 min at half height.
1.5 k' must be 5 < k' < 25
1.6 Signal-to-noise ratio must be > 50 for all peaks

Calibration Test Failed tests are marked red

Compound and Calibration lvl		Amount	% Level	RSD(RT)	RSD(Area)
des-hyd cis tramadol (C)	1	0.810	0.081	0.017	1.723
	2	0.095	0.094	0.044	13.224
des-hyd trans tramadol (B)	1	0.768	0.077	0.027	1.701
	2	0.079	0.078	0.094	7.397
o-desm tramadol (D)	1	0.811	0.081	0.071	2.095
	2	0.118	0.118	0.089	1.922
TRAMADOL	1	999.588	100.000	0.022	0.075
	2	100.762	100.000	0.081	0.131
trans- tramadol (A)	1	0.823	0.082	0.042	2.145
	2	0.080	0.079	0.076	9.729

All calibrated compounds found

Impurity-Profiling [Rev. 1] Page 3 of 5

Impurity Profiling

Creation Date: 2/6/2010 9:43:55 PM

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Applied rules for calibration test
2.1 The precision of area must be < 5 % rsd above the 0.03 % level for all impurities.
2.2 Precision of area must be < 20 % rsd below the 0.03 % level for all impurities.
2.3 The precision of area must be < 1 %rsd for the main compound.
2.4 The precision for retention times should be < 0. 5% rsd.

Calculations:
%Level= Amount(measured impurity)/Calibration Amount(Main Compound)*100

Control Sample Test Failed tests are marked red

	Amount	Resolution EP	S/N	% Level LOD
des-hyd cis tramadol (C)	5.022	7.551	17.685	10.334
des-hyd trans tramadol (B)	4.595	3.663	13.135	12.729
o-desm tramadol (D)	5.144	4.085	14.604	12.818
TRAMADOL	5.496	5.683	9.742	20.529
trans- tramadol (A)	5.198	7.400	13.547	13.962

List of NOT found compounds is empty

Applied rules for control sample test
3.1 Resolution for all peaks must be > 2.
3.2 Limit of detection must be <0.01 % level for all impuriti

Calculations:
%Level LOD=(Amount(impurity)*2/SignalToNoise(impurity

Sample Test Failed tests are marked re

	Sample 1	Sample 2
TRAMADOL	1015.185	1009.053
Impurity des-hyd cis tram	0.01944	0.07045
Impurity des-hyd trans tr	0.01969	0.06352
Impurity o-desm tramado	0.01592	0.06597
Impurity trans- tramadol (	0.02079	0.06856
Total Impurity %	**0.076**	**0.268**

Applied rules for above sample tests
4.5 Determination of the amount of the main compound in
4.6 Determination of the impurity level in %.
4.7 Percentage of allowed total impurity amount must be <

Main compound	Sample 1	Sample

Impurity-Profiling [Rev. 1]

Impurity Profiling

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Agilent Technologies

Main compound		Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
TRAMADOL	RSD(Area)	0.032	0.140	0.084	0.111	0.049	0.222
	RSD(RT)	0.033	0.028	0.054	0.171	0.053	0.024
Impurities		Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
des-hyd cis tramadol (C)	RSD(Area)	3.758	3.569	4.500	1.377	2.451	2.116
	RSD(RT)	0.086	0.032	0.039	0.080	0.006	0.008
des-hyd trans tramadol (B)	RSD(Area)	13.676	1.685	3.020	2.442	3.822	6.687
	RSD(RT)	0.095	0.039	0.035	0.078	0.007	0.015
o-desm tramadol (D)	RSD(Area)	1.860	1.587	4.453	0.372	0.942	3.784
	RSD(RT)	0.011	0.192	0.017	0.101	0.032	0.151
TRAMADOL	RSD(Area)	0.032	0.140	0.084	0.111	0.049	0.222
	RSD(RT)	0.033	0.028	0.054	0.171	0.053	0.024
trans- tramadol (A)	RSD(Area)	12.542	0.836	2.155	1.365	1.203	1.929
	RSD(RT)	0.007	0.047	0.091	0.146	0.056	0.059
RSD(Area) Min		0.032	0.140	0.084	0.111	0.049	0.222
RSD(Area) Max		13.676	3.569	4.500	2.442	3.822	6.687
RSD(RT) Min		0.007	0.028	0.017	0.078	0.006	0.008
RSD(RT) Max		0.095	0.192	0.091	0.171	0.056	0.151
Count		5.000	5.000	5.000	5.000	5.000	5.000

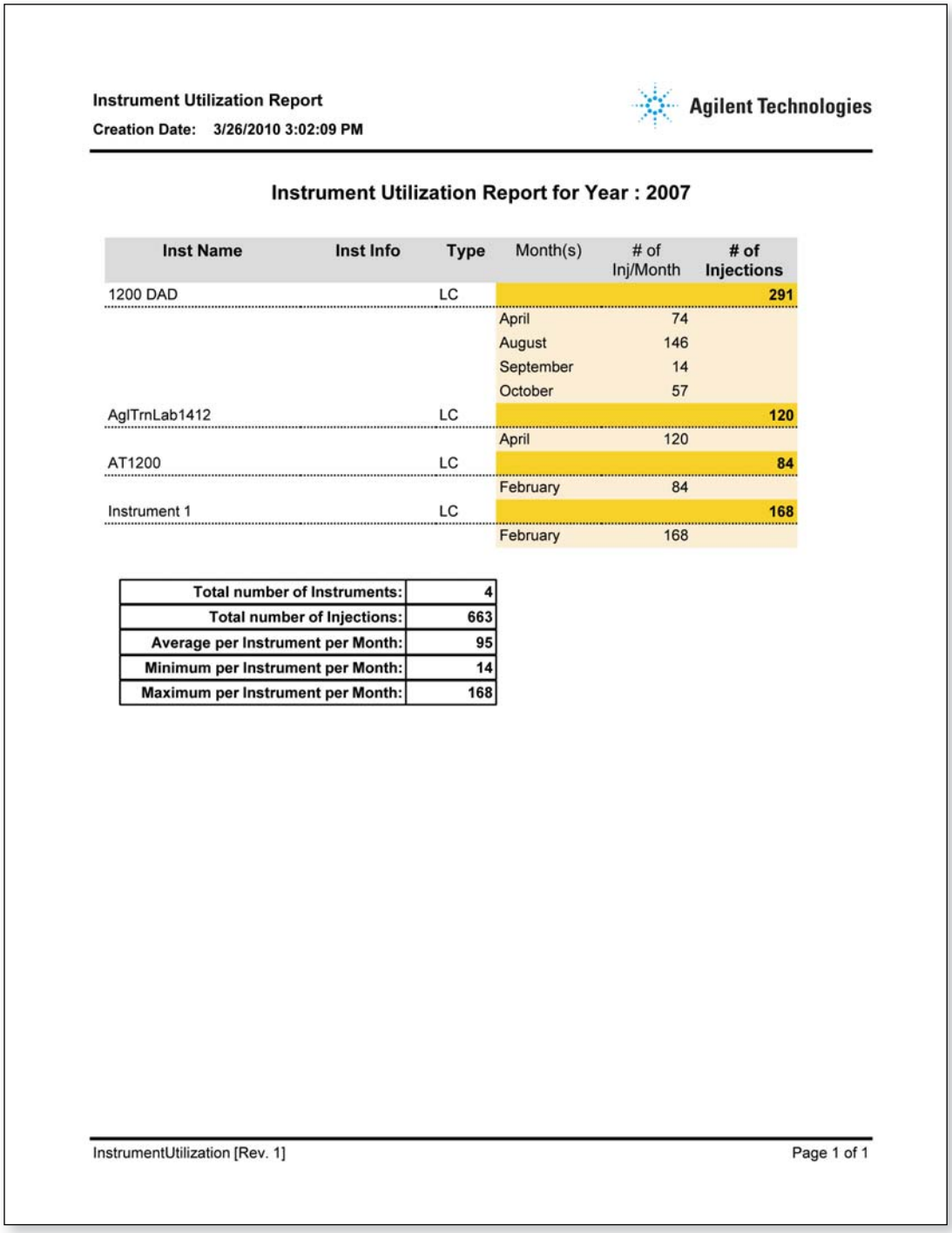
List of NOT found compounds is empty

Applied rules for above sample tests
4.1 Area precision of the main compound must be < 1 % rsd.
4.2 Retention time precision must be < 0.5 % rsd.
4.3a Precision for areas of impurities from 0.05 up to the 0.4 % level must be < 10 % rsd
4.3b precision below 0.05 % down to the 0.02% level area precision should be < 20 % rsd
4.4 Retention time precision for impurities must be < 0.5 % rsd

Impurity-Profiling [Rev. 1] Page 5 of 5

Instrument Utilization

While many report templates are designed for the analyst, utilization reports provide an overview of the usage of each instrument to the lab manager and can be used to balance resources, justify additional equipment or manpower, and determine service intervals. An added benefit is that of Interactive Fields that enable the reviewer to choose data display options prior to printing the report (e.g. the report year could be interactive). The example below provides the Lab Manager a rapid overview of the status of instruments in the enterprise.



Instrument Utilization Report
Creation Date: 3/26/2010 3:02:09 PM

Agilent Technologies

Instrument Utilization Report for Year : 2007

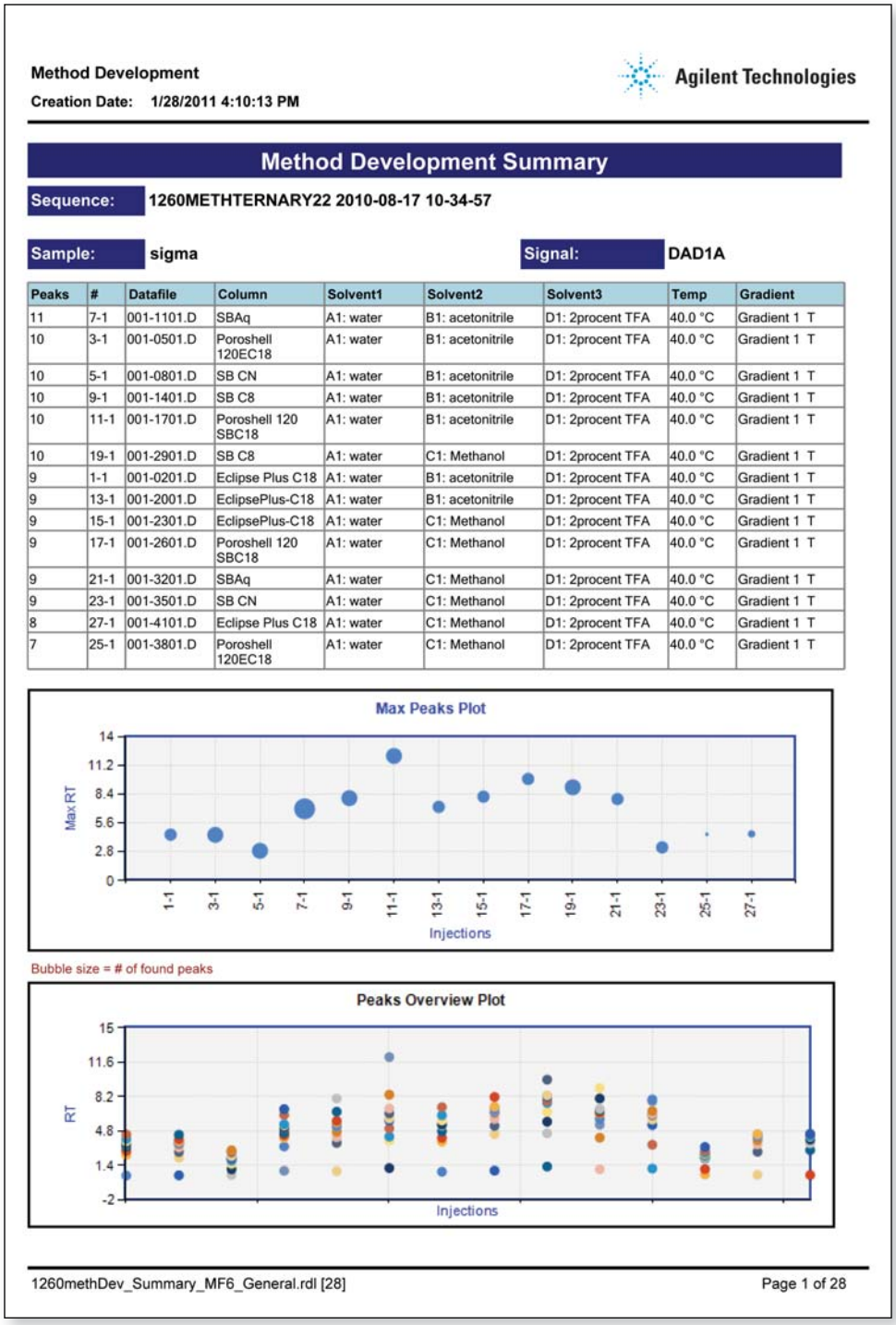
Inst Name	Inst Info	Type	Month(s)	# of Inj/Month	# of Injections
1200 DAD		LC			291
			April	74	
			August	146	
			September	14	
			October	57	
AgITrnLab1412		LC			120
			April	120	
AT1200		LC			84
			February	84	
Instrument 1		LC			168
			February	168	

Total number of Instruments:	4
Total number of Injections:	663
Average per Instrument per Month:	95
Minimum per Instrument per Month:	14
Maximum per Instrument per Month:	168

InstrumentUtilization [Rev. 1] Page 1 of 1

Method Development Summary

This Method Development Report provides an extensive summary of the data to enable the analyst to easily determine the optimum conditions for a separation. For example, the data in the table below are sorted by the number of peaks so that those injections with the maximum number of peaks appear at the top of the table. The bubble plot below the table gives the user a indication of which injections have the maximum number of peaks (size of the bubble) with a short duration of the run (y-axis). The lower plot gives the user an indication of the spread of the peaks for each injection.



Method Development

Creation Date: 1/28/2011 4:10:13 PM

Agilent Technologies

Method Development Summary

Sequence: 1260METHTERNARY22 2010-08-17 10-34-57

Sample: sigma **Signal:** DAD1A

Peaks	#	Datafile	Column	Solvent1	Solvent2	Solvent3	Temp	Gradient
11	7-1	001-1101.D	SBAq	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T
10	3-1	001-0501.D	Poroshell 120EC18	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T
10	5-1	001-0801.D	SB CN	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T
10	9-1	001-1401.D	SB C8	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T
10	11-1	001-1701.D	Poroshell 120 SBC18	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T
10	19-1	001-2901.D	SB C8	A1: water	C1: Methanol	D1: 2procent TFA	40.0 °C	Gradient 1 T
9	1-1	001-0201.D	Eclipse Plus C18	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T
9	13-1	001-2001.D	EclipsePlus-C18	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T
9	15-1	001-2301.D	EclipsePlus-C18	A1: water	C1: Methanol	D1: 2procent TFA	40.0 °C	Gradient 1 T
9	17-1	001-2601.D	Poroshell 120 SBC18	A1: water	C1: Methanol	D1: 2procent TFA	40.0 °C	Gradient 1 T
9	21-1	001-3201.D	SBAq	A1: water	C1: Methanol	D1: 2procent TFA	40.0 °C	Gradient 1 T
9	23-1	001-3501.D	SB CN	A1: water	C1: Methanol	D1: 2procent TFA	40.0 °C	Gradient 1 T
8	27-1	001-4101.D	Eclipse Plus C18	A1: water	C1: Methanol	D1: 2procent TFA	40.0 °C	Gradient 1 T
7	25-1	001-3801.D	Poroshell 120EC18	A1: water	C1: Methanol	D1: 2procent TFA	40.0 °C	Gradient 1 T

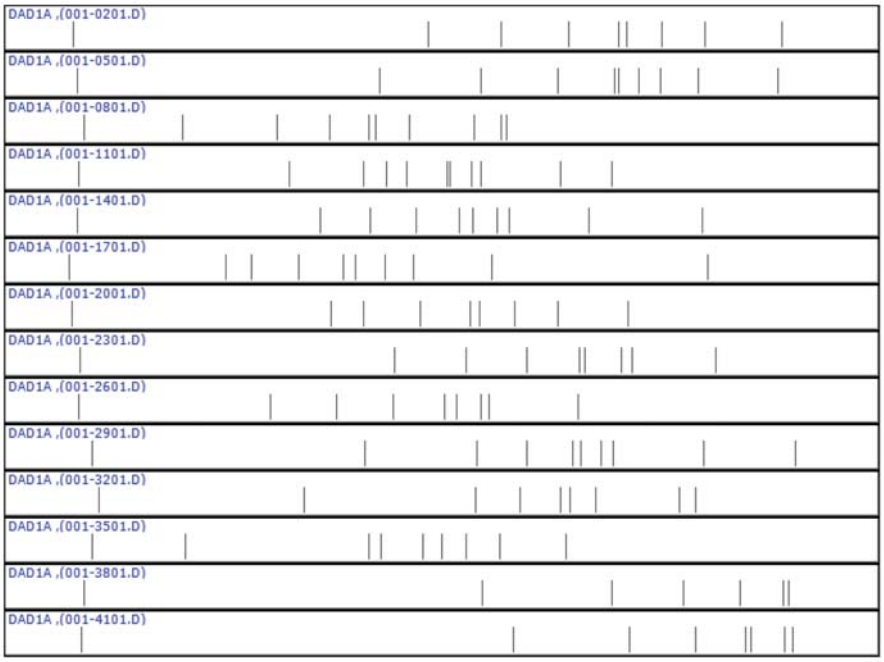
Bubble size = # of found peaks

1260methDev_Summary_MF6_General.rdl [28] Page 1 of 28

Method Development

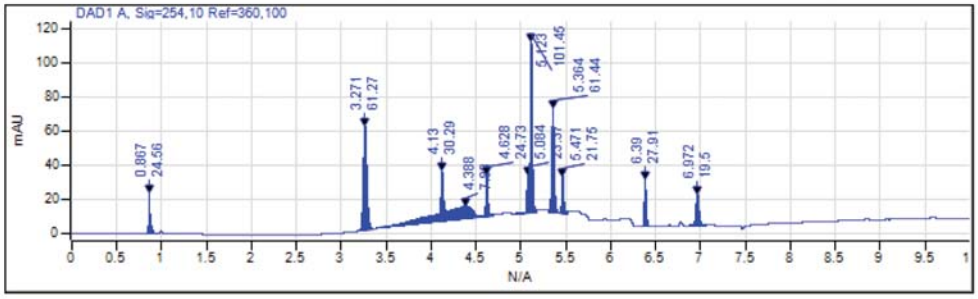
Creation Date: 1/28/2011 4:10:13 PM

Agilent Technologies

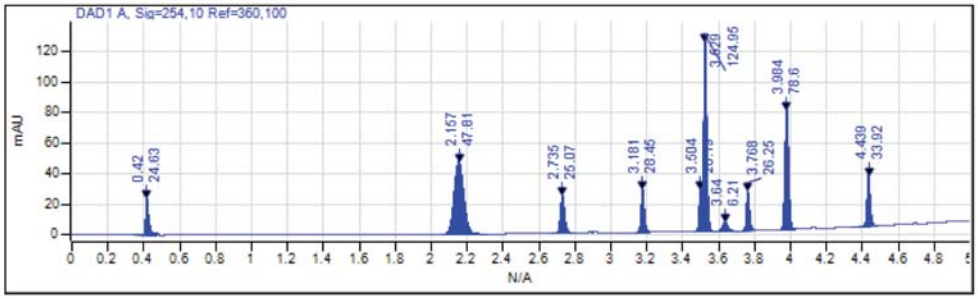


Individual Results sorted for max number of peaks (best first)

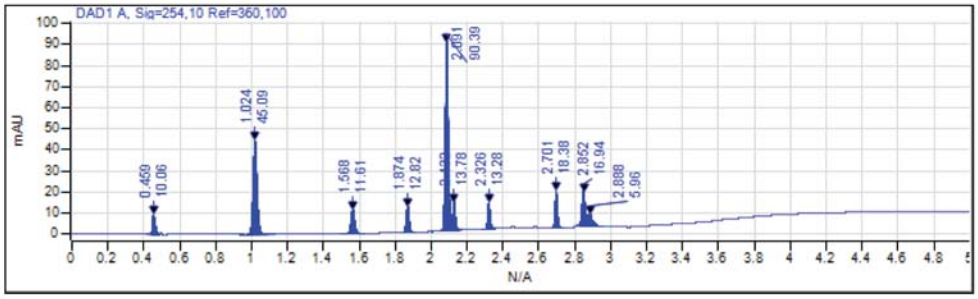
Data file	Column	Solvent1	Solvent2	Solvent3	Temp	Gradient
001-1101.D	SBAq	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T



Data file	Column	Solvent1	Solvent2	Solvent3	Temp	Gradient
001-0501.D	Poroshell 120EC18	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T



Data file	Column	Solvent1	Solvent2	Solvent3	Temp	Gradient
001-0801.D	SB CN	A1: water	B1: acetonitrile	D1: 2procent TFA	40.0 °C	Gradient 1 T



Minor Component Analysis

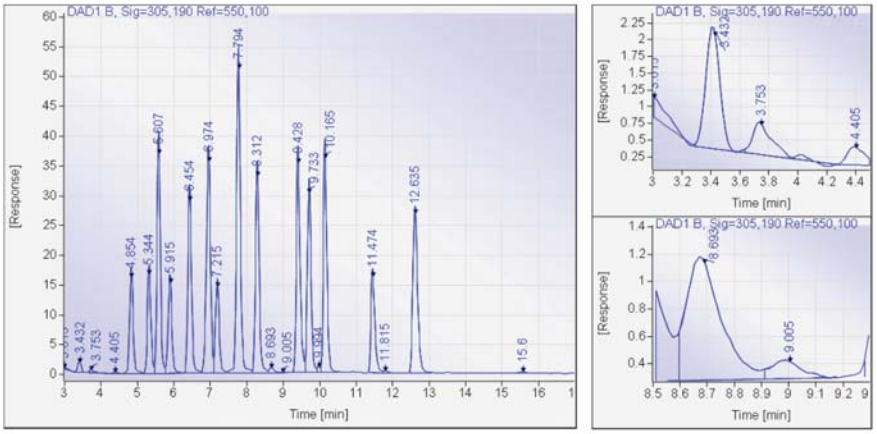
Below is an example of the benefit of excellent sensitivity of Agilent instrumentation combined with the power of the OpenLAB Intelligent Reporter. The DAD enables detection of trace levels of components while the report displays a chromatographic overview in combination with two highly magnified areas to determine the presence of contaminants.

Minor Component Analysis

Creation Date: 6/9/2010 3:57:45 PM

Agilent Technologies

Sample_Name **PAH**



Region 1 Peaks

RT	Area	Area Percent
3.432	12.4342	0.40
3.435	19.6959	0.23
3.753	4.5677	0.15

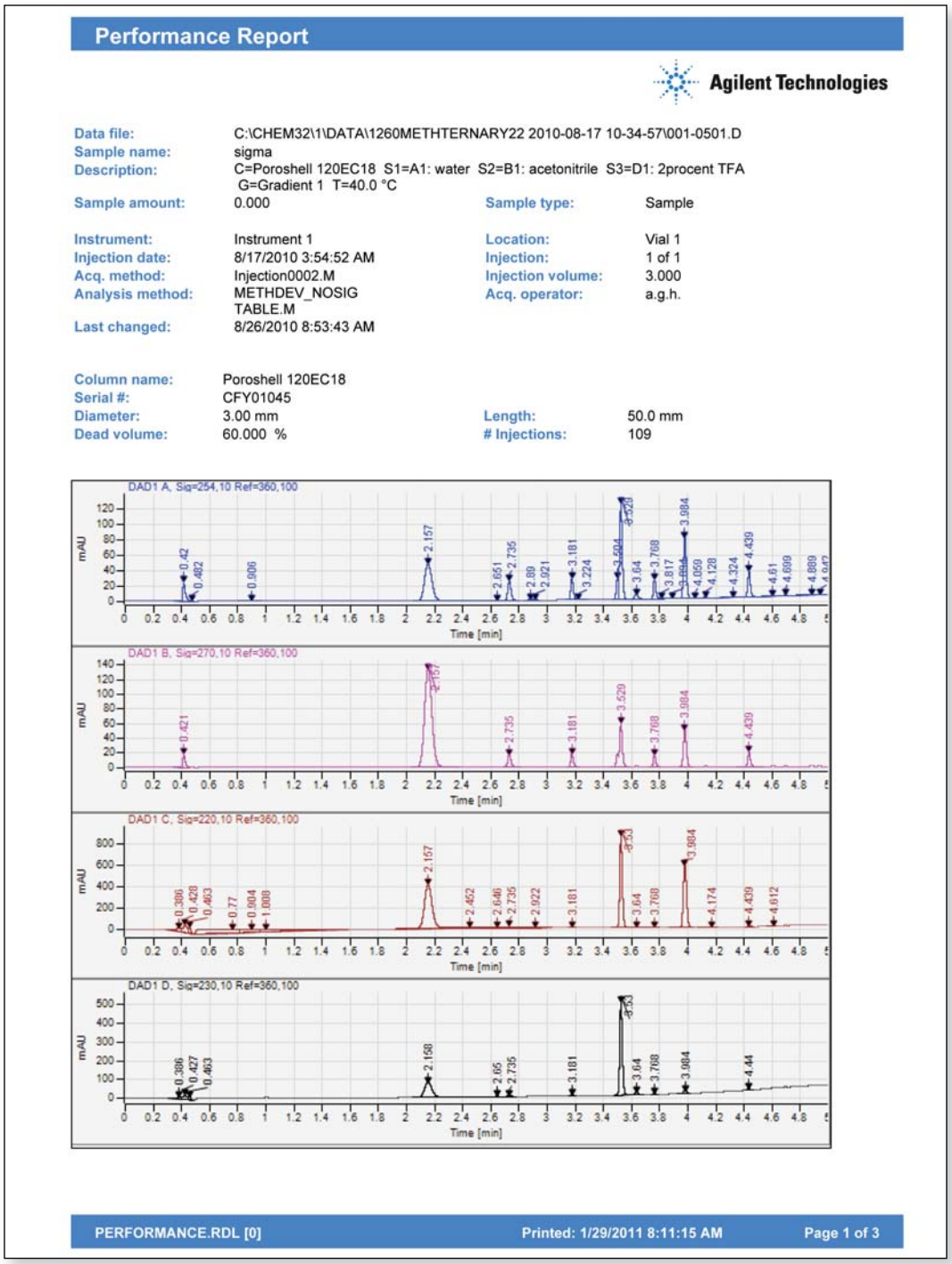
Region 2 Peaks

RT	Area	Area Percent
8.688	19.2821	0.22
8.693	8.2108	0.27
9.005	0.9892	0.03

SA Minor Component Analysis [1] Page 1 of 1

Performance Report

Method and column performance are quickly reviewed using a report template that provides separate chromatograms for different wavelength and column performance results including peak symmetry, theoretical plates, resolution and selectivity.

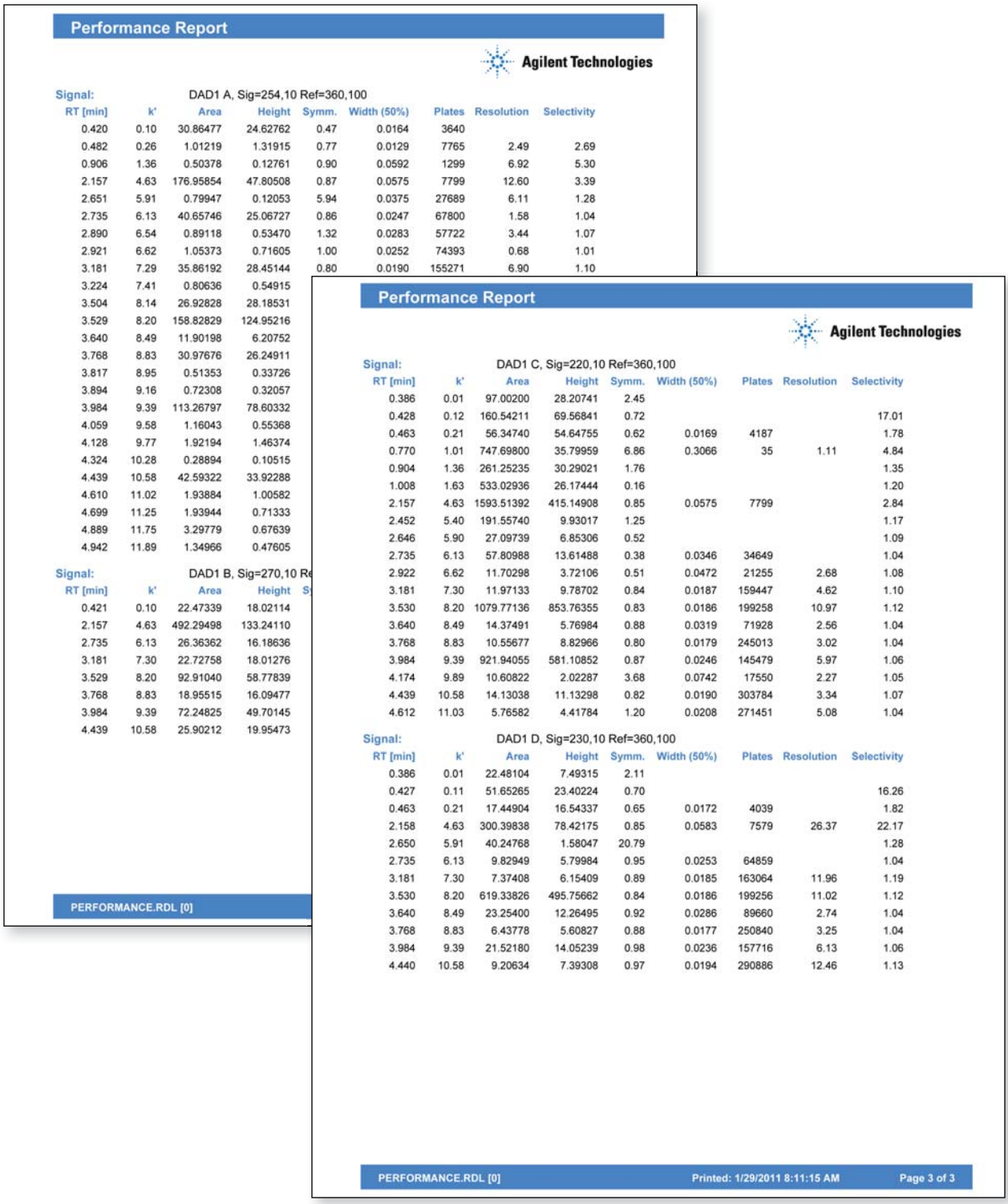


Performance Report

Agilent Technologies

Data file:	C:\CHEM32\1\DATA\1260METHTERNARY22 2010-08-17 10-34-57\001-0501.D		
Sample name:	sigma		
Description:	C=Poroshell 120EC18 S1=A1: water S2=B1: acetonitrile S3=D1: 2procent TFA G=Gradient 1 T=40.0 °C		
Sample amount:	0.000	Sample type:	Sample
Instrument:	Instrument 1	Location:	Vial 1
Injection date:	8/17/2010 3:54:52 AM	Injection:	1 of 1
Acq. method:	Injection0002.M	Injection volume:	3.000
Analysis method:	METHDEV_NOSIG TABLE.M	Acq. operator:	a.g.h.
Last changed:	8/26/2010 8:53:43 AM		
Column name:	Poroshell 120EC18		
Serial #:	CFY01045		
Diameter:	3.00 mm	Length:	50.0 mm
Dead volume:	60.000 %	# Injections:	109

PERFORMANCE.RDL [0] Printed: 1/29/2011 8:11:15 AM Page 1 of 3



Performance Report

Agilent Technologies

Signal: DAD1 A, Sig=254,10 Ref=360,100

RT [min]	k'	Area	Height	Symm.	Width (50%)	Plates	Resolution	Selectivity
0.420	0.10	30.86477	24.62762	0.47	0.0164	3640		
0.482	0.26	1.01219	1.31915	0.77	0.0129	7765	2.49	2.69
0.906	1.36	0.50378	0.12761	0.90	0.0592	1299	6.92	5.30
2.157	4.63	176.95854	47.80508	0.87	0.0575	7799	12.60	3.39
2.651	5.91	0.79947	0.12053	5.94	0.0375	27689	6.11	1.28
2.735	6.13	40.65746	25.06727	0.86	0.0247	67800	1.58	1.04
2.890	6.54	0.89118	0.53470	1.32	0.0283	57722	3.44	1.07
2.921	6.62	1.05373	0.71605	1.00	0.0252	74393	0.68	1.01
3.181	7.29	35.86192	28.45144	0.80	0.0190	155271	6.90	1.10
3.224	7.41	0.80636	0.54915					
3.504	8.14	26.92828	28.18531					
3.529	8.20	158.82829	124.95216					
3.640	8.49	11.90198	6.20752					
3.768	8.83	30.97676	26.24911					
3.817	8.95	0.51353	0.33726					
3.894	9.16	0.72308	0.32057					
3.984	9.39	113.26797	78.60332					
4.059	9.58	1.16043	0.55368					
4.128	9.77	1.92194	1.46374					
4.324	10.28	0.28894	0.10515					
4.439	10.58	42.59322	33.92288					
4.610	11.02	1.93884	1.00582					
4.699	11.25	1.93944	0.71333					
4.889	11.75	3.29779	0.67639					
4.942	11.89	1.34966	0.47605					

Signal: DAD1 B, Sig=270,10 Re

RT [min]	k'	Area	Height	Sy
0.421	0.10	22.47339	18.02114	
2.157	4.63	492.29498	133.24110	
2.735	6.13	26.36362	16.18636	
3.181	7.30	22.72758	18.01276	
3.529	8.20	92.91040	58.77839	
3.768	8.83	18.95515	16.09477	
3.984	9.39	72.24825	49.70145	
4.439	10.58	25.90212	19.95473	

PERFORMANCE.RDL [0]

Performance Report

Agilent Technologies

Signal: DAD1 C, Sig=220,10 Ref=360,100

RT [min]	k'	Area	Height	Symm.	Width (50%)	Plates	Resolution	Selectivity
0.386	0.01	97.00200	28.20741	2.45				
0.428	0.12	160.54211	69.56841	0.72				17.01
0.463	0.21	56.34740	54.64755	0.62	0.0169	4187		1.78
0.770	1.01	747.69800	35.79959	6.86	0.3066	35	1.11	4.84
0.904	1.36	261.25235	30.29021	1.76				1.35
1.008	1.63	533.02936	26.17444	0.16				1.20
2.157	4.63	1593.51392	415.14908	0.85	0.0575	7799		2.84
2.452	5.40	191.55740	9.93017	1.25				1.17
2.646	5.90	27.09739	6.85306	0.52				1.09
2.735	6.13	57.80988	13.61488	0.38	0.0346	34649		1.04
2.922	6.62	11.70298	3.72106	0.51	0.0472	21255	2.68	1.08
3.181	7.30	11.97133	9.78702	0.84	0.0187	159447	4.62	1.10
3.530	8.20	1079.77136	853.76355	0.83	0.0186	199258	10.97	1.12
3.640	8.49	14.37491	5.76984	0.88	0.0319	71928	2.56	1.04
3.768	8.83	10.55677	8.82966	0.80	0.0179	245013	3.02	1.04
3.984	9.39	921.94055	581.10852	0.87	0.0246	145479	5.97	1.06
4.174	9.89	10.60822	2.02287	3.68	0.0742	17550	2.27	1.05
4.439	10.58	14.13038	11.13298	0.82	0.0190	303784	3.34	1.07
4.612	11.03	5.76582	4.41784	1.20	0.0208	271451	5.08	1.04

Signal: DAD1 D, Sig=230,10 Ref=360,100

RT [min]	k'	Area	Height	Symm.	Width (50%)	Plates	Resolution	Selectivity
0.386	0.01	22.48104	7.49315	2.11				
0.427	0.11	51.65265	23.40224	0.70				16.26
0.463	0.21	17.44904	16.54337	0.65	0.0172	4039		1.82
2.158	4.63	300.39838	78.42175	0.85	0.0583	7579	26.37	22.17
2.650	5.91	40.24768	1.58047	20.79				1.28
2.735	6.13	9.82949	5.79984	0.95	0.0253	64859		1.04
3.181	7.30	7.37408	6.15409	0.89	0.0185	163064	11.96	1.19
3.530	8.20	619.33826	495.75662	0.84	0.0186	199256	11.02	1.12
3.640	8.49	23.25400	12.26495	0.92	0.0286	89660	2.74	1.04
3.768	8.83	6.43778	5.60827	0.88	0.0177	250840	3.25	1.04
3.984	9.39	21.52180	14.05239	0.98	0.0236	157716	6.13	1.06
4.440	10.58	9.20634	7.39308	0.97	0.0194	290886	12.46	1.13

PERFORMANCE.RDL [0] Printed: 1/29/2011 8:11:15 AM Page 3 of 3

Simple Purity Report

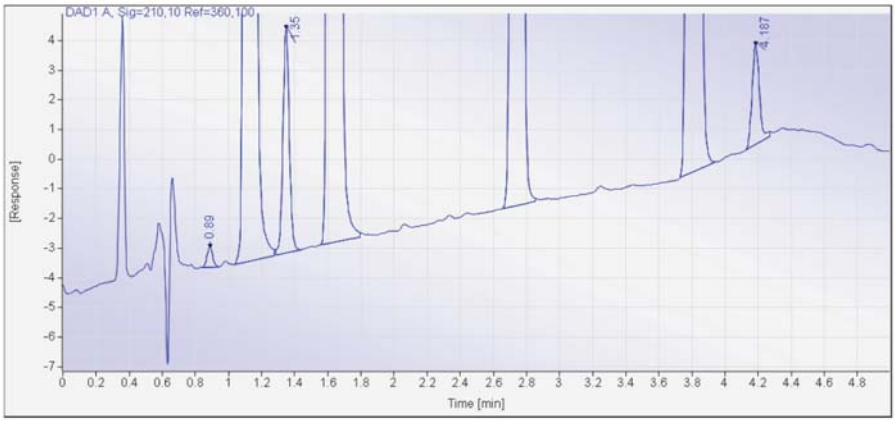
In this example, a simple purity determination is performed by taking into account known and unknown peaks and reporting the ratio as a percentage. This type of report can speed certification of incoming raw material in the pharmaceutical and food industry. The report is minimized to show only a magnified region of the chromatogram and a ratio of the area % of unknown to known components. For quick confirmation, the result and acceptance limit are shown.

Product Purity Report

Reported: 6/9/2010 8:34:15 PM

Agilent Technologies

Sample *AH2347L153*



Purity 99.5 % **Limit** 97.0 %

Identified Peaks

Name	Amount %
DiMethyl Phthalate	24.4
DiEthyl Phthalate	27.5
BiPhenyl	23.4
o-TerPhenyl	24.7

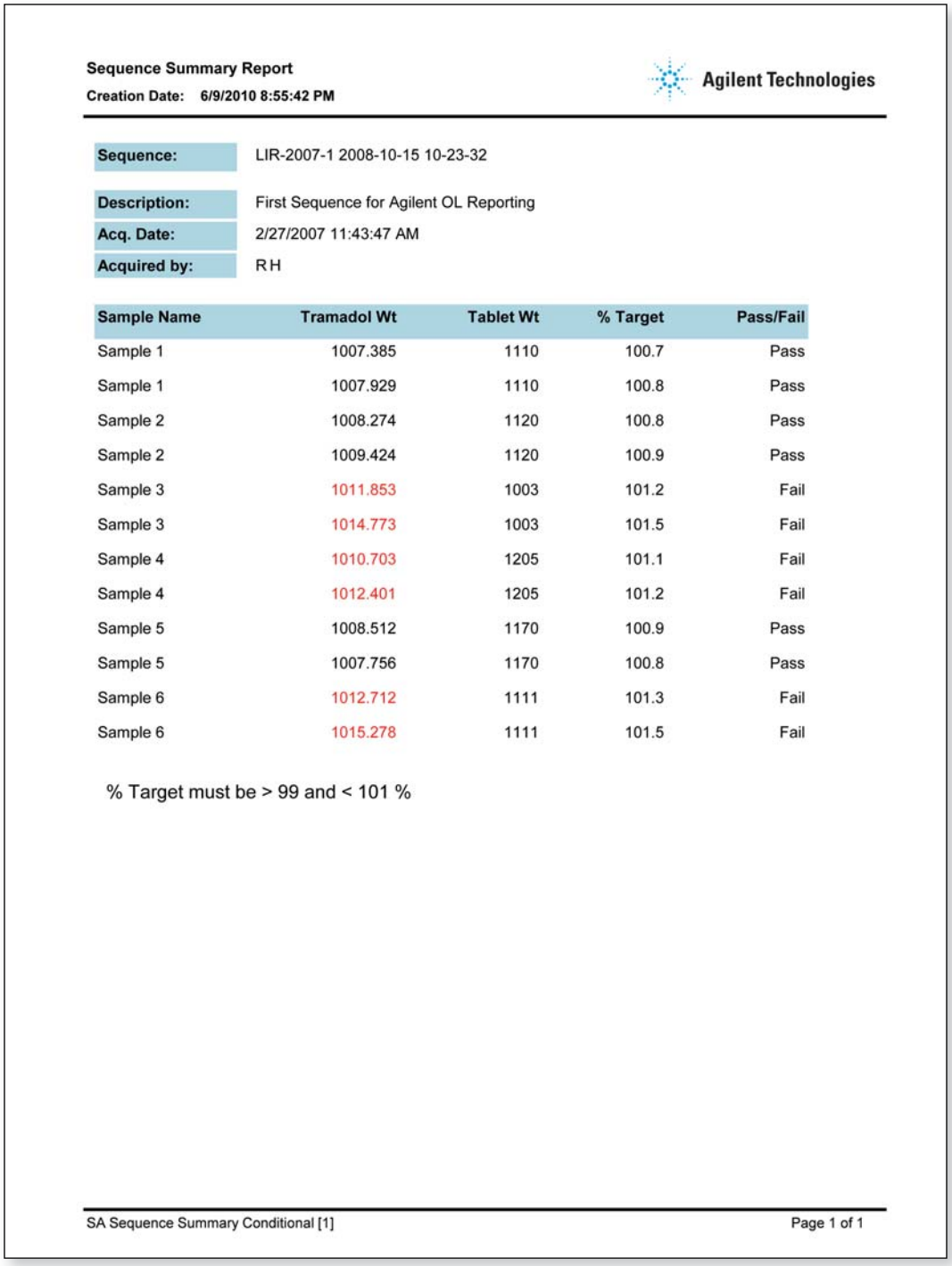
Unidentified Peaks

RT	Area Pct
0.890	0.0
1.350	0.3
4.187	0.2
Sum	0.5

SA Product Purity [2] Page 1 of 1

Sequence Summary with Limits

The OpenLAB Intelligent Reporter is the ideal tool to summarize lengthy sequences, perform secondary calculations on target compounds, and display results conditionally on pre-set acceptance limits.



Sequence Summary Report
Creation Date: 6/9/2010 8:55:42 PM

Agilent Technologies

Sequence:	LIR-2007-1 2008-10-15 10-23-32
Description:	First Sequence for Agilent OL Reporting
Acq. Date:	2/27/2007 11:43:47 AM
Acquired by:	RH

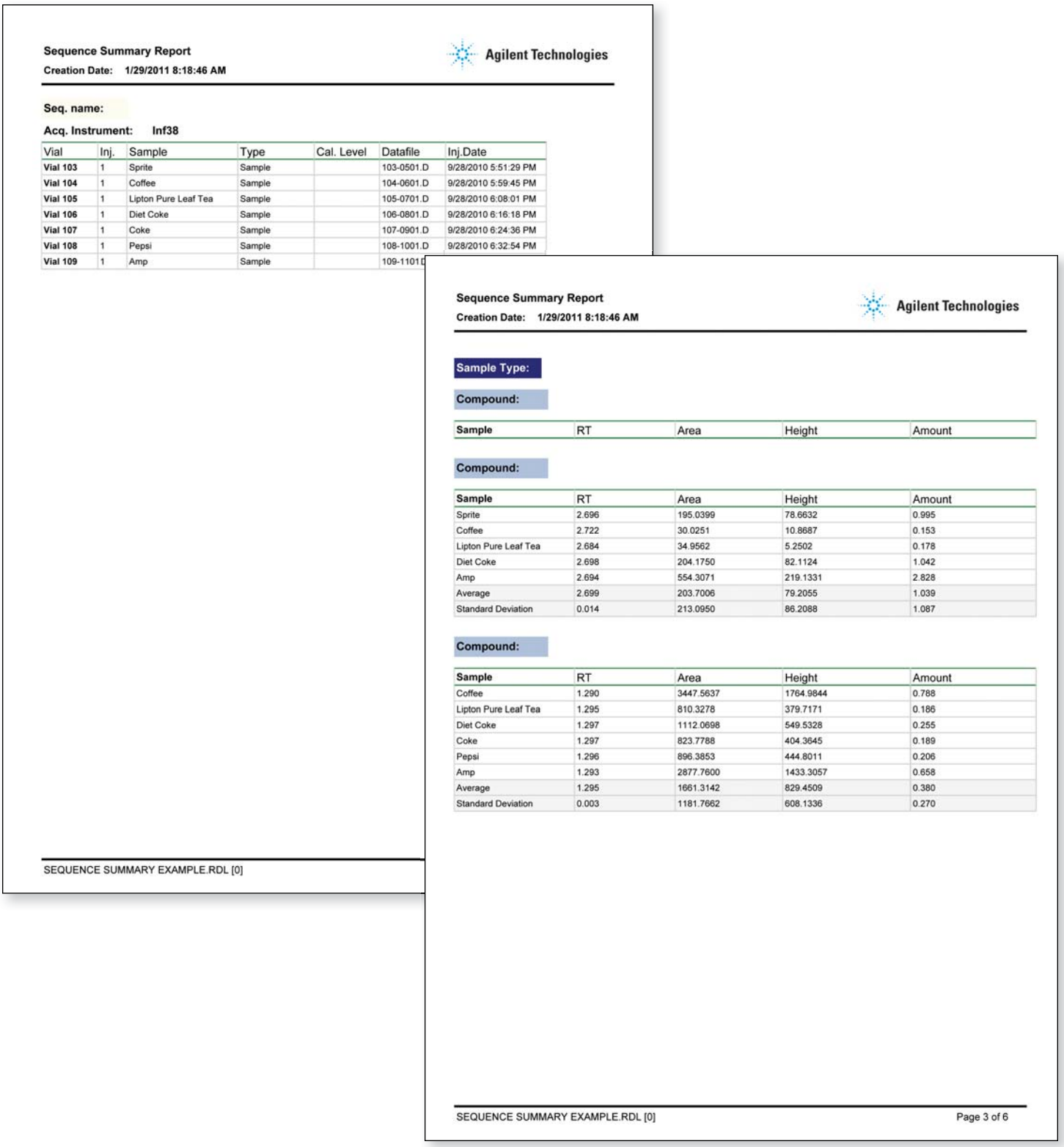
Sample Name	Tramadol Wt	Tablet Wt	% Target	Pass/Fail
Sample 1	1007.385	1110	100.7	Pass
Sample 1	1007.929	1110	100.8	Pass
Sample 2	1008.274	1120	100.8	Pass
Sample 2	1009.424	1120	100.9	Pass
Sample 3	1011.853	1003	101.2	Fail
Sample 3	1014.773	1003	101.5	Fail
Sample 4	1010.703	1205	101.1	Fail
Sample 4	1012.401	1205	101.2	Fail
Sample 5	1008.512	1170	100.9	Pass
Sample 5	1007.756	1170	100.8	Pass
Sample 6	1012.712	1111	101.3	Fail
Sample 6	1015.278	1111	101.5	Fail

% Target must be > 99 and < 101 %

SA Sequence Summary Conditional [1] Page 1 of 1

Sequence Summary – Long Form

These different templates are used to determine comparative levels of components in various beverages. Varying levels of detail facilitates a comparison between different types of soft drinks.



Sequence Summary Report
Creation Date: 1/29/2011 8:18:46 AM

Agilent Technologies

Seq. name:

Acq. Instrument: Inf38

Vial	Inj.	Sample	Type	Cal. Level	Datafile	Inj.Date
Vial 103	1	Sprite	Sample		103-0501.D	9/28/2010 5:51:29 PM
Vial 104	1	Coffee	Sample		104-0601.D	9/28/2010 5:59:45 PM
Vial 105	1	Lipton Pure Leaf Tea	Sample		105-0701.D	9/28/2010 6:08:01 PM
Vial 106	1	Diet Coke	Sample		106-0801.D	9/28/2010 6:16:18 PM
Vial 107	1	Coke	Sample		107-0901.D	9/28/2010 6:24:36 PM
Vial 108	1	Pepsi	Sample		108-1001.D	9/28/2010 6:32:54 PM
Vial 109	1	Amp	Sample		109-1101.D	

SEQUENCE SUMMARY EXAMPLE.RDL [0]

Sequence Summary Report
Creation Date: 1/29/2011 8:18:46 AM

Agilent Technologies

Sample Type:

Compound:

Sample	RT	Area	Height	Amount

Compound:

Sample	RT	Area	Height	Amount
Sprite	2.696	195.0399	78.6632	0.995
Coffee	2.722	30.0251	10.8687	0.153
Lipton Pure Leaf Tea	2.684	34.9562	5.2502	0.178
Diet Coke	2.698	204.1750	82.1124	1.042
Amp	2.694	554.3071	219.1331	2.828
Average	2.699	203.7006	79.2055	1.039
Standard Deviation	0.014	213.0950	86.2088	1.087

Compound:

Sample	RT	Area	Height	Amount
Coffee	1.290	3447.5637	1764.9844	0.788
Lipton Pure Leaf Tea	1.295	810.3278	379.7171	0.186
Diet Coke	1.297	1112.0698	549.5328	0.255
Coke	1.297	823.7788	404.3645	0.189
Pepsi	1.296	896.3853	444.8011	0.206
Amp	1.293	2877.7600	1433.3057	0.658
Average	1.295	1661.3142	829.4509	0.380
Standard Deviation	0.003	1181.7662	608.1336	0.270

SEQUENCE SUMMARY EXAMPLE.RDL [0] Page 3 of 6

Sequence Summary Report

Creation Date: 1/29/2011 8:28:09 AM

Agilent Technologies

Sequence: CAFF_SODA 2010-09-28 A1

Description:

Acq. Date: 9/28/2010 5:18:11 PM **by:** SB

#	Sample	Vial	Injs	Cal Lvl	Datafile
1	Caffeine Standard 250ug/ml .5ul	Vial 101	1	1	101-0101.D
2	Caffeine Standard 250ug/ml 1ul	Vial 101	1	1	101-0201.D
3	Caffeine Standard 250ug/ml 3ul	Vial 101	1	1	101-0301.D
4	Caffeine Standard 250ug/ml 5ul	Vial 102	1	1	102-
5	Sprite	Vial 103	1		103-
6	Coffee	Vial 104	1		104-
7	Lipton Pure Leaf Tea	Vial 105	1		105-
8	Diet Coke	Vial 106	1		106-
9	Coke	Vial 107	1		107-
10	Pepsi	Vial 108	1		108-
11	Amp	Vial 109	1		109-
12	Caffeine Standard 250ug/ml .5ul	Vial 101	1	1	101-
13	Caffeine Standard 250ug/ml 1ul	Vial 101	1	1	101-
14	Caffeine Standard 250ug/ml 3ul	Vial 101	1	1	101-
15	Caffeine Standard 250ug/ml 5ul	Vial 102	1	1	102-

EXAMPLE SEQ SUMMARY 3.RDL [0]

Sequence Summary Report

Creation Date: 1/29/2011 8:23:23 AM

Agilent Technologies

Sequence Name CAFF_SODA 2010-09-28 A1

Seq Acquired By Steve Brown

Seq Acquired Date 9/28/2010 10:18:11 PM

Sample Name	Compound	RT	Area	Height	Amount	Unit
Caffeine Standard 250ug/ml .5ul	Caffeine	1.294	537.303	268.135	0.12	ug/ml
Caffeine Standard 250ug/ml 1ul	Caffeine	1.293	1076.098	538.029	0.21	ug/ml
Caffeine Standard 250ug/ml 3ul	Caffeine	1.293	3236.960	1620.167	0.65	ug/ml
Caffeine Standard 250ug/ml 5ul	Caffeine	1.295	5432.336	2713.158	1.33	ug/ml
Sprite	Benzoate	2.696	195.040	78.663	1.00	ug/ml
Coffee	Caffeine	1.290	3447.564	1764.984	0.79	ug/ml
Coffee	Benzoate	2.722	30.025	10.869	0.15	ug/ml
Lipton Pure Leaf Tea	Caffeine	1.295	810.328	379.717	0.19	ug/ml
Lipton Pure Leaf Tea	Benzoate	2.684	34.956	5.250	0.18	ug/ml
Diet Coke	Caffeine	1.297	1112.070	549.533	0.25	ug/ml
Diet Coke	Benzoate	2.698	204.175	82.112	1.04	ug/ml
Coke	Caffeine	1.297	823.779	404.364	0.19	ug/ml
Pepsi	Caffeine	1.296	896.385	444.801	0.21	ug/ml
Amp	Caffeine	1.293	2877.760	1433.306	0.66	ug/ml
Amp	Benzoate	2.694	554.307	219.133	2.83	ug/ml
Caffeine Standard 250ug/ml .5ul	Caffeine	1.296	526.626	261.166	0.12	ug/ml
Caffeine Standard 250ug/ml 1ul	Caffeine	1.295	1067.522	533.253	0.24	ug/ml
Caffeine Standard 250ug/ml 3ul	Caffeine	1.294	3253.161	1625.220	0.74	ug/ml
Caffeine Standard 250ug/ml 5ul	Caffeine	1.293	5449.240	2712.749	1.25	ug/ml

0-SEQ-SUMMARY.RDL [1] Page 1 of 4

Detailed System Suitability and Stability

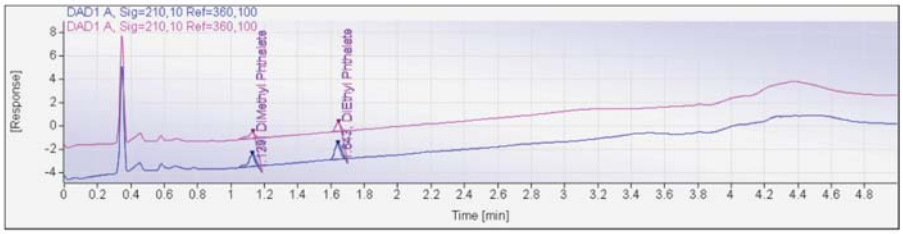
Extensive system suitability reporting shows the data in a tabular fashion. Graphics are used to show area stability and peak symmetry with inflection points.

Sequence Summary Report

Creation Date: 6/9/2010 9:02:13 PM

Agilent Technologies

Blank Injections



System Suitability Standards

DiMethyl Phthalate

Data File	RT	Area
SIG1000003.D	1.129	2162.50
SIG1000004.D	1.127	2159.16
SIG1000005.D	1.127	2160.22
SIG1000006.D	1.128	2158.51
SIG1000007.D	1.128	2159.77
SIG1000008.D	1.127	2159.51
Average	1.128	2159.94
RSD	0.052	0.06

DiEthylPhthalate

Data File	RT	Area
SIG1000003.D	1.639	2010.96
SIG1000004.D	1.638	2007.09
SIG1000005.D	1.638	2006.43
SIG1000006.D	1.638	2005.06
SIG1000007.D	1.638	2007.54
SIG1000008.D	1.637	2008.15
Average	1.638	2007.54
RSD	0.037	0.10

BiPhenyl

Data File	RT	Area
SIG1000003.D	2.745	424.75
SIG1000004.D	2.744	423.91
SIG1000005.D	2.744	423.85
SIG1000006.D	2.744	423.90
SIG1000007.D	2.744	424.20
SIG1000008.D	2.743	423.86
Average	2.744	424.08
RSD	0.018	0.08

o-TerPhenyl

Data File	RT	Area
SIG1000003.D	3.811	1185.66
SIG1000004.D	3.810	1183.26
SIG1000005.D	3.812	1182.49
SIG1000006.D	3.812	1182.99
SIG1000007.D	3.812	1182.93
SIG1000008.D	3.811	1183.42
Average	3.811	1183.46
RSD	0.015	0.09

SA Structured Sequence Partial [9]

Page 1 of 7

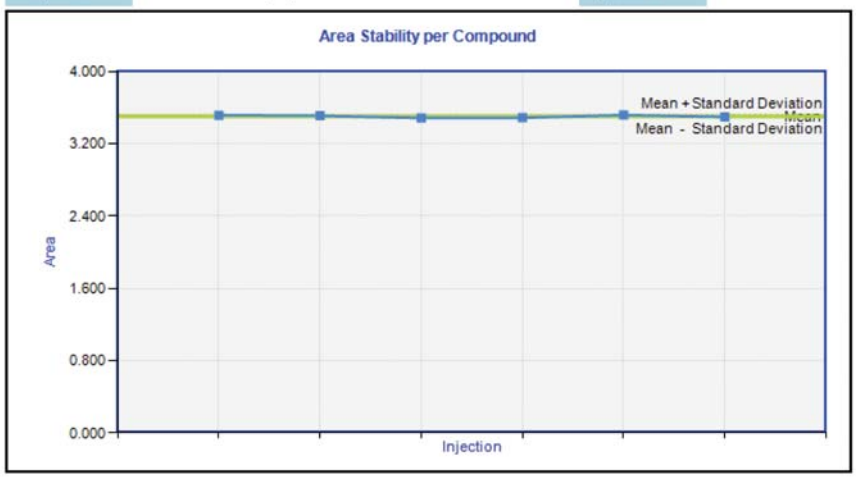
System Suitability and Area Stability per Compound

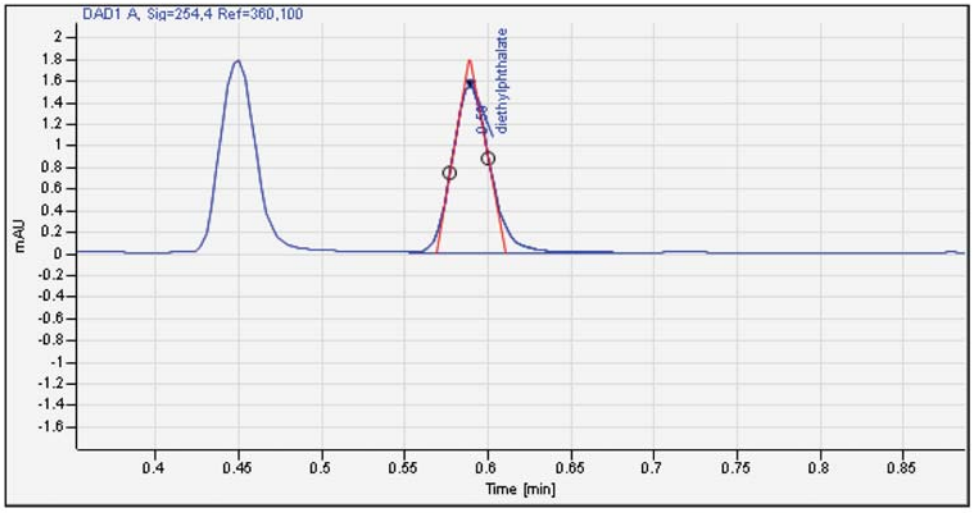
Agilent Technologies

Compound: o-desm tramadol (D)

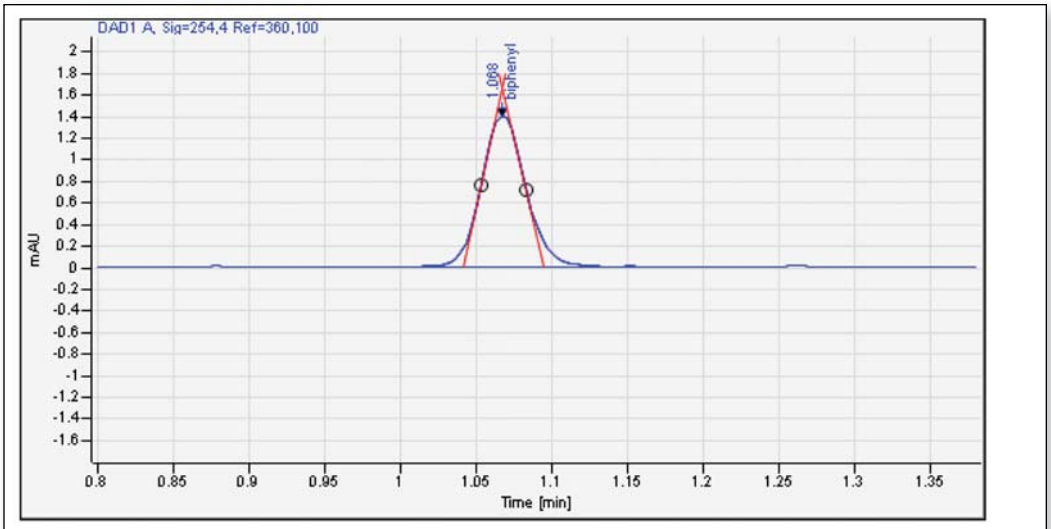
Sample	Vial	Inj#	RT	Area	Tailing Factor	k'
SS RSD 2	P1-F-03	1	0.921	3.513	1.11	7.104
SS RSD 2	P1-F-03	2	0.922	3.507	1.11	7.113
SS RSD 2	P1-F-03	3	0.92	3.483	1.11	7.093
SS RSD 2	P1-F-03	4	0.919	3.485	1.11	7.091
SS RSD 2	P1-F-03	5	0.92	3.515	1.11	7.096
SS RSD 2	P1-F-03	6	0.92	3.494	1.11	7.094
		Average	0.920	3.500	1.11	7.099
		Standard D	0.001	0.014	0.00	0.008

Compound: **o-desm tramadol (D)** Expected RT: 0.919





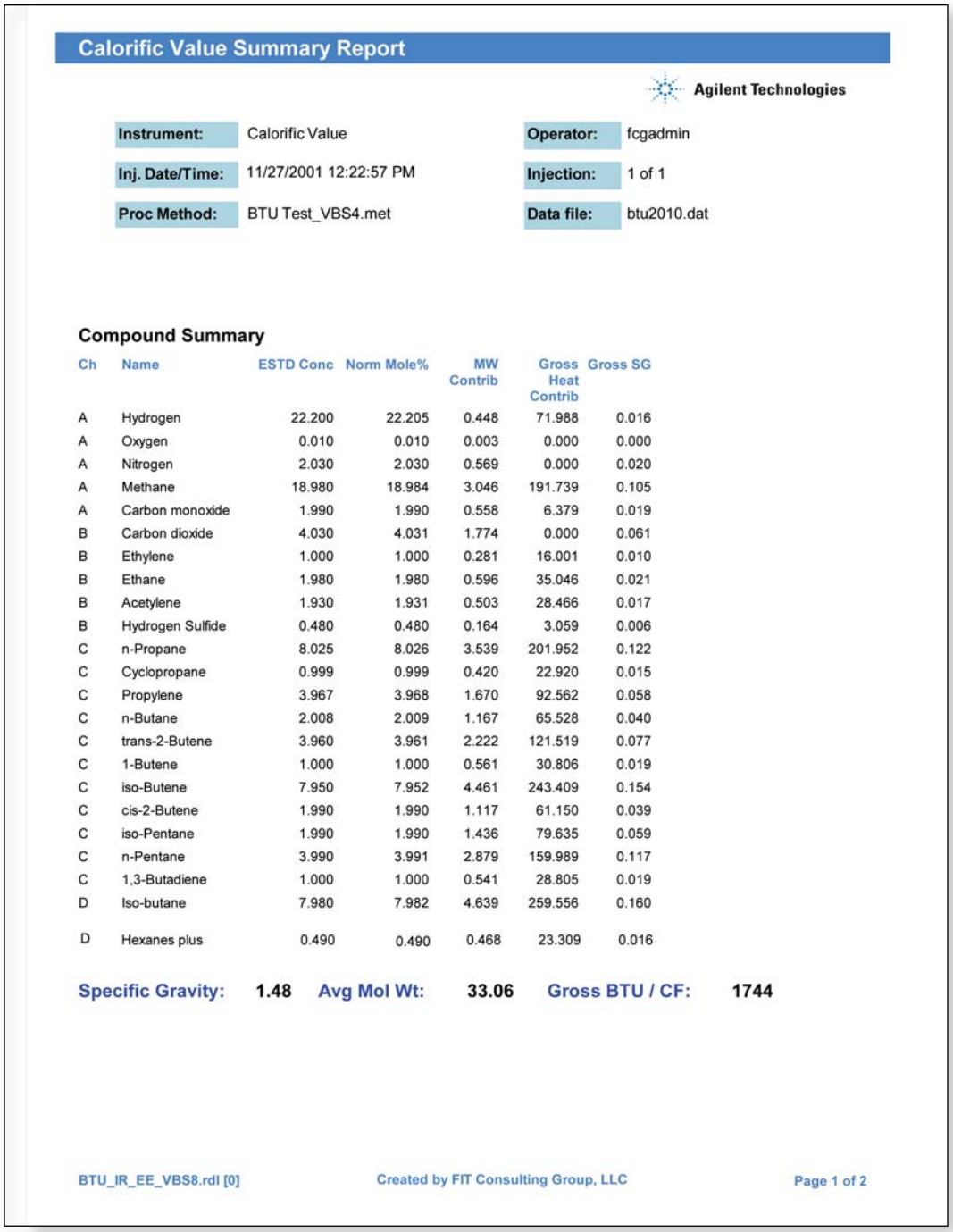
Name	RT	Signal	Resolution (USP)	Tailing Factor	k'	Tangent Width	Plates (USP)
diethylphthalate	0.59	DAD1A	3.553	1.09	0.769	0.041	3352



Name	RT	Signal	Resolution (USP)	Tailing Factor	k'	Tangent Width	Plates (USP)
biphenyl	1.068	DAD1A	10.207	1.15	2.204	0.053	6497

Concise Calorific Analysis

RGA, NGA and BTU analyses require complex calculations designed to yield a final, actionable piece of information that determines the quality of a fuel or gas sample. In this example, the OpenLAB Intelligent Reporter provides a concise result consisting of gross BTU/ft^3 value along, average molecular weight, and specific gravity. The report computes 3 physical constants for each of 22 components, and a hexanes-plus group from OpenLAB CDS EZChrom Edition.



Calorific Value Summary Report

Agilent Technologies

Instrument:	Calorific Value	**Operator:**	fcgadmin
Inj. Date/Time:	11/27/2001 12:22:57 PM	**Injection:**	1 of 1
Proc Method:	BTU Test_VBS4.met	**Data file:**	btu2010.dat

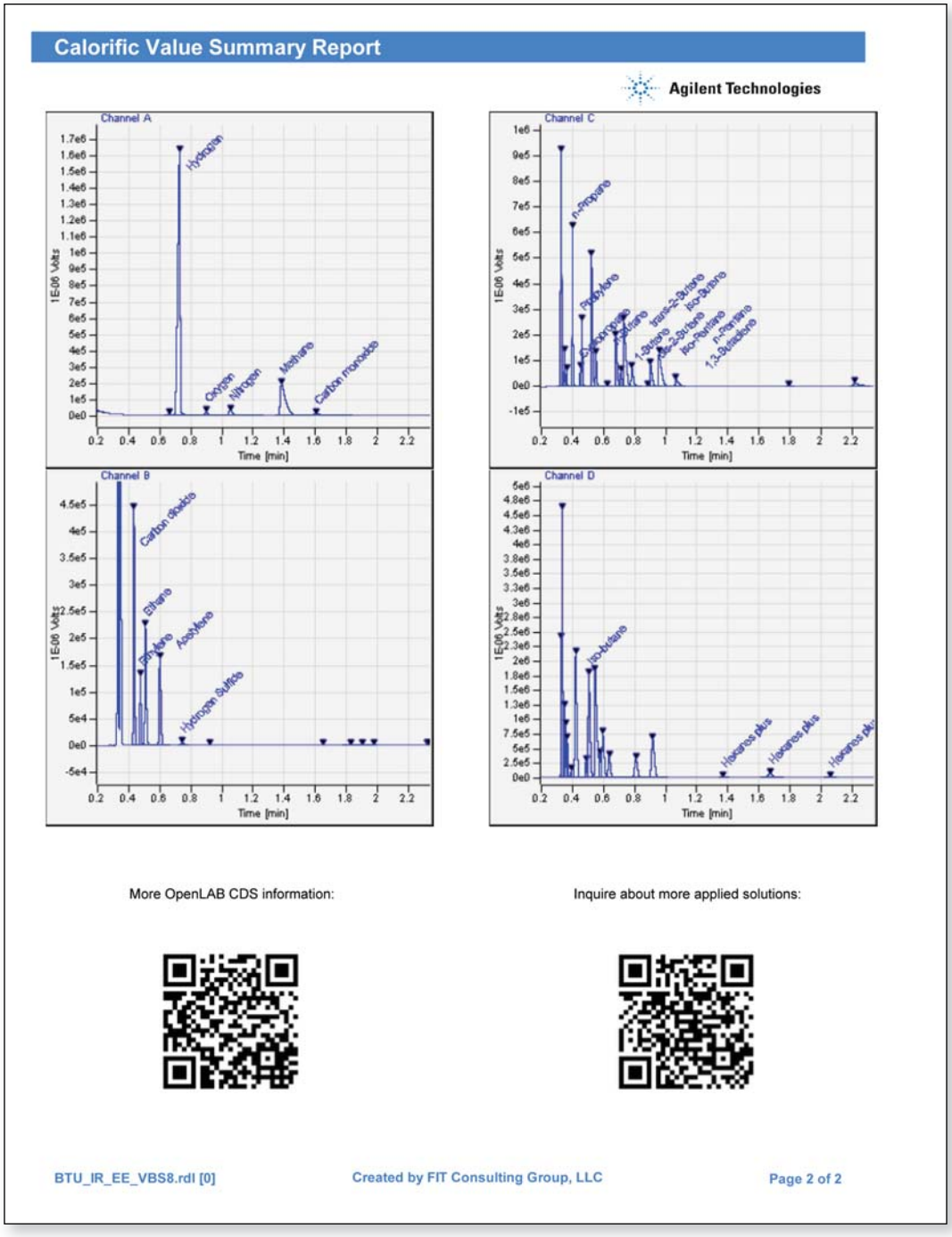
Compound Summary

Ch	Name	ESTD Conc	Norm Mole%	MW Contrib	Gross Heat Contrib	Gross SG
A	Hydrogen	22.200	22.205	0.448	71.988	0.016
A	Oxygen	0.010	0.010	0.003	0.000	0.000
A	Nitrogen	2.030	2.030	0.569	0.000	0.020
A	Methane	18.980	18.984	3.046	191.739	0.105
A	Carbon monoxide	1.990	1.990	0.558	6.379	0.019
B	Carbon dioxide	4.030	4.031	1.774	0.000	0.061
B	Ethylene	1.000	1.000	0.281	16.001	0.010
B	Ethane	1.980	1.980	0.596	35.046	0.021
B	Acetylene	1.930	1.931	0.503	28.466	0.017
B	Hydrogen Sulfide	0.480	0.480	0.164	3.059	0.006
C	n-Propane	8.025	8.026	3.539	201.952	0.122
C	Cyclopropane	0.999	0.999	0.420	22.920	0.015
C	Propylene	3.967	3.968	1.670	92.562	0.058
C	n-Butane	2.008	2.009	1.167	65.528	0.040
C	trans-2-Butene	3.960	3.961	2.222	121.519	0.077
C	1-Butene	1.000	1.000	0.561	30.806	0.019
C	iso-Butene	7.950	7.952	4.461	243.409	0.154
C	cis-2-Butene	1.990	1.990	1.117	61.150	0.039
C	iso-Pentane	1.990	1.990	1.436	79.635	0.059
C	n-Pentane	3.990	3.991	2.879	159.989	0.117
C	1,3-Butadiene	1.000	1.000	0.541	28.805	0.019
D	Iso-butane	7.980	7.982	4.639	259.556	0.160
D	Hexanes plus	0.490	0.490	0.468	23.309	0.016

Specific Gravity: 1.48 **Avg Mol Wt:** 33.06 **Gross BTU / CF:** 1744

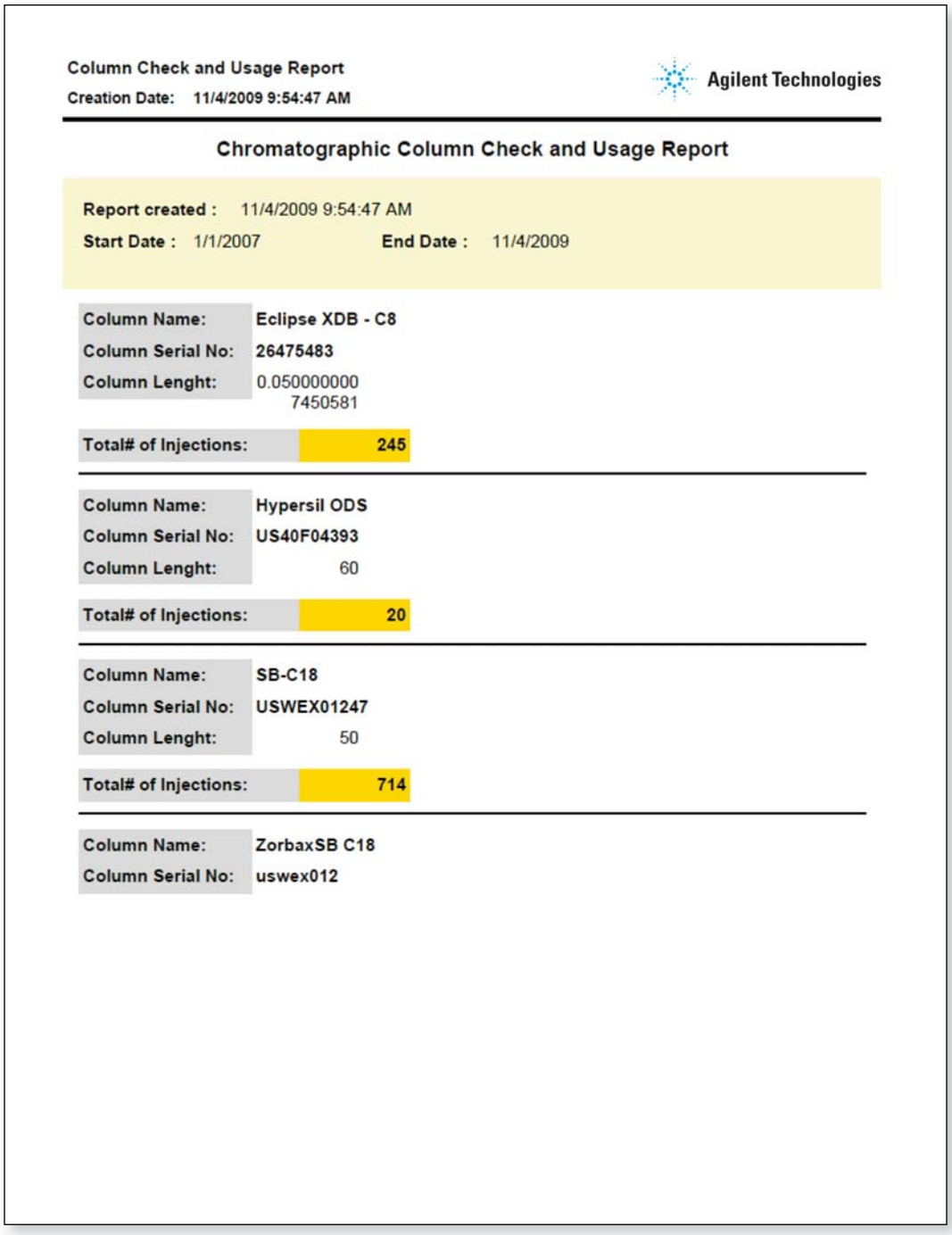
BTU_IR_EE_VBS8.rdl [0] Created by FIT Consulting Group, LLC Page 1 of 2

Intelligent reporting also allows the insertion of additional graphics such as logos or bar codes. The example shown includes QR codes that enable a smart phone to quickly access additional details.



Column Usage Check

Lab managers will benefit significantly from periodic checks of column usage in the laboratory. By combining statistics, summaries, and graphic displays this Column Usage Check report allows the lab manager to easily get an overview of the distribution of resources, determine service intervals, and to make more efficient use of lab resources.



Column Check and Usage Report
Creation Date: 11/4/2009 9:54:47 AM

Agilent Technologies

Chromatographic Column Check and Usage Report

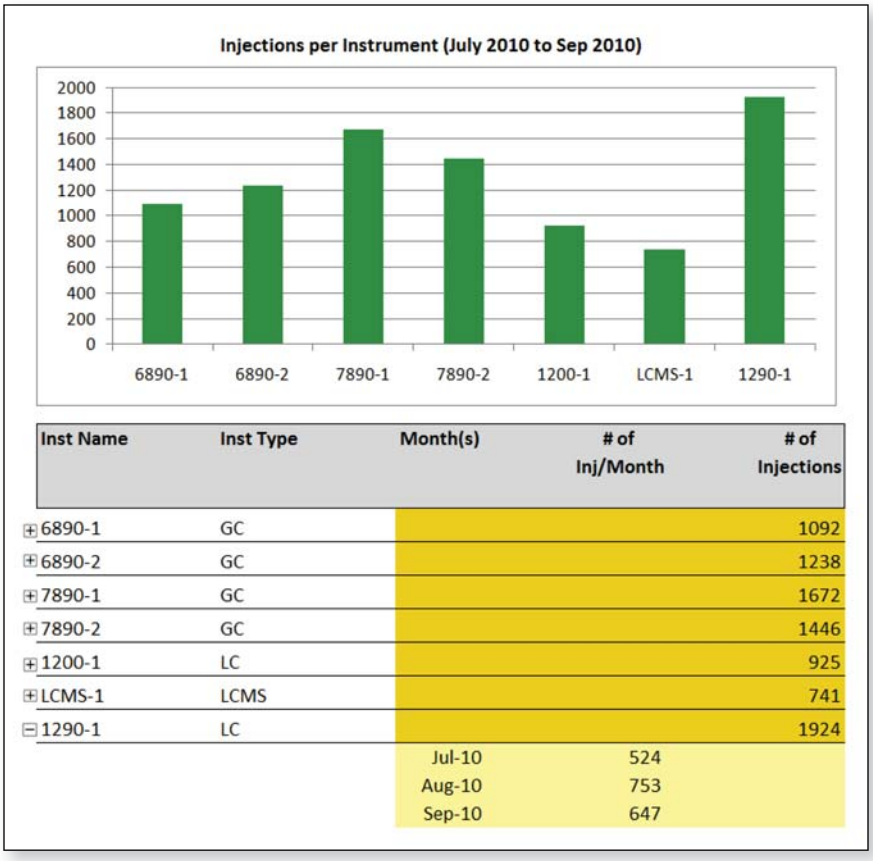
Report created : 11/4/2009 9:54:47 AM
Start Date : 1/1/2007 End Date : 11/4/2009

Column Name:	Eclipse XDB - C8
Column Serial No:	26475483
Column Lenght:	0.050000000 7450581
Total# of Injections:	245

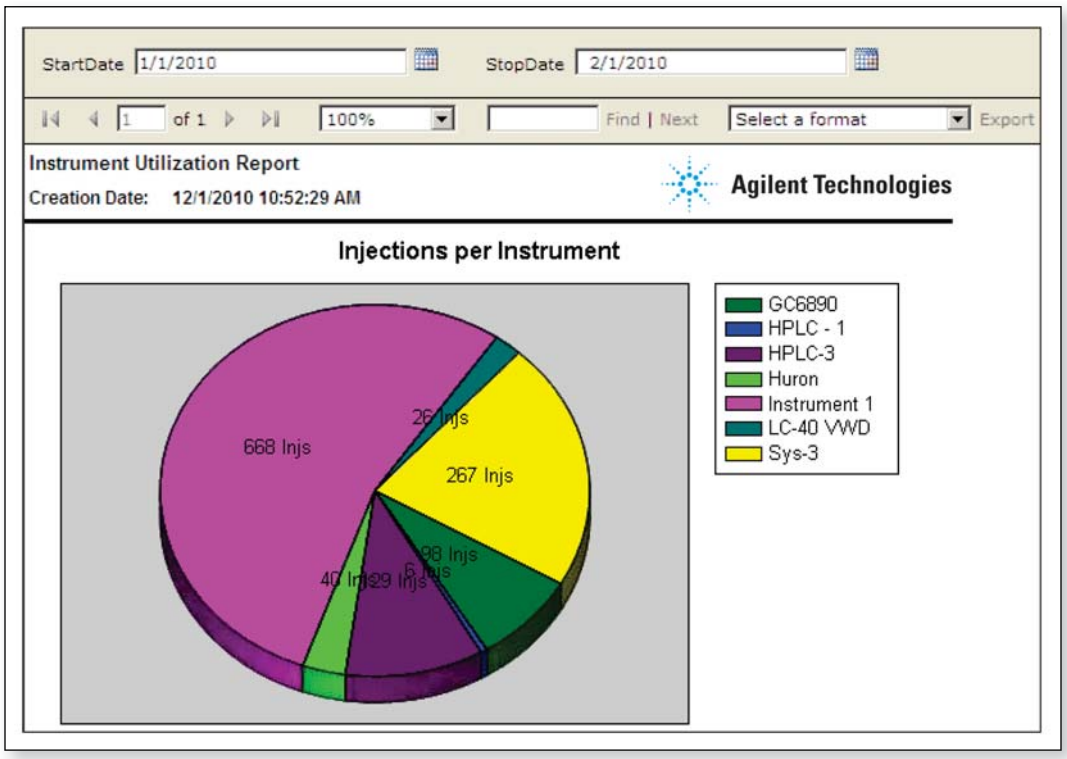
Column Name:	Hypersil ODS
Column Serial No:	US40F04393
Column Lenght:	60
Total# of Injections:	20

Column Name:	SB-C18
Column Serial No:	USWEX01247
Column Lenght:	50
Total# of Injections:	714

Column Name:	ZorbaxSB C18
Column Serial No:	uswex012



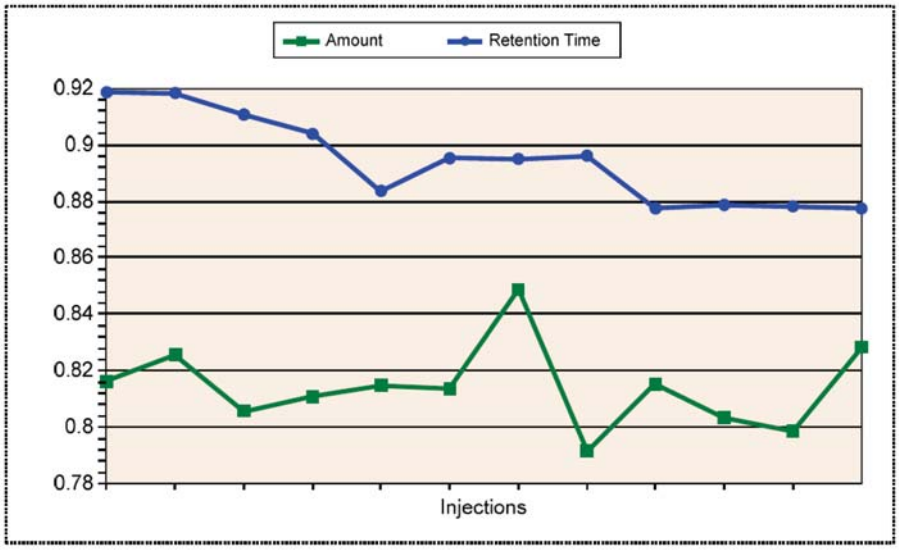
Inst Name	Inst Type	Month(s)	# of Inj/Month	# of Injections
⊞6890-1	GC			1092
⊞6890-2	GC			1238
⊞7890-1	GC			1672
⊞7890-2	GC			1446
⊞1200-1	LC			925
⊞LCMS-1	LCMS			741
⊟1290-1	LC			1924
		Jul-10	524	
		Aug-10	753	
		Sep-10	647	



Calibration Standards Statistics Report

Creation Date: 2/6/2010 9:33:55 PM

Agilent Technologies



Column Name:	**Eclipse XDB - C8**
Column Serial No:	**26475483**

Instrument	*Acq Method*		*Plates USP*	*Plates EP*
A1100_6				
	WAD_Data\ICM\Master\dissolution\theophyl_caff.met	*Overall Average:*	5732	5998
		Overall Average:	5778	6033

Column Name:	**Hypersil ODS**
Column Serial No:	**US40F04393**

Instrument	*Acq Method*		*Plates USP*	*Plates EP*
AgilTrnLab1412				
	CSEXAMPLE.M	*Overall Average:*	0	0

Column Name:	**SB-C18**
Column Serial No:	**USWEX01247**

Instrument	*Acq Method*		*Plates USP*	*Plates EP*
Instrument 1				
	XSR_M1.M	*Overall Average:*	53038	55700
AT1200				
	XSR_M2.M	*Overall Average:*	45894	48465

LC Diagnosis Report

The 'health' of a chromatograph is reviewed in this report focusing on minimum and maximum pressure and on the variations in pressure over the course of numerous runs.

Start/Stop Pressure of injections

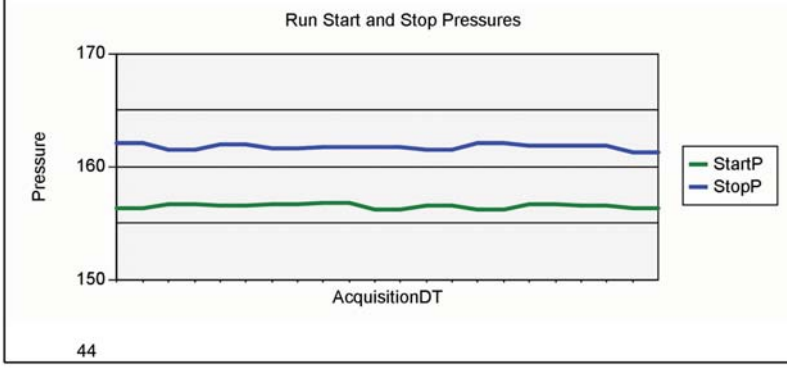
Creation Date: 4/11/2008 3:13:28 PM

Agilent Technologies

LC_DEMO-3

Sample Name	L#	Inj#	Start Pressure	End Pressure
isocratic sample STD	1	1	156.360	162.070
isocratic sample STD	1	1	156.360	162.070
isocratic sample STD	2	1	156.650	161.520
isocratic sample STD	2	1	156.650	161.520
isocratic sample STD	3	1	156.590	161.940
isocratic sample STD	3	1	156.590	161.940
isocratic sample 1	4	1	156.720	161.650
isocratic sample 1	4	1	156.720	161.650
isocratic sample CS	5	1	156.780	161.760
isocratic sample CS	5	1	156.780	161.760
isocratic sample 2	6	1	156.230	161.760
isocratic sample 2	6	1	156.230	161.760
isocratic sample CS	7	1	156.590	161.520
isocratic sample CS	7	1	156.590	161.520
isocratic sample 3	8	1	156.280	162.070
isocratic sample 3	8	1	156.280	162.070
isocratic sample STD	9	1	156.720	161.830
isocratic sample STD	9	1	156.720	161.830
isocratic sample STD	10	1	156.590	161.890
isocratic sample STD	10	1	156.590	161.890
isocratic sample STD	11	1	156.360	161.280
isocratic sample STD	11	1	156.360	161.280

Min	156.230	161.280
Max	156.780	162.070
Mean	156.534	161.754
Stdev	0.188	0.240



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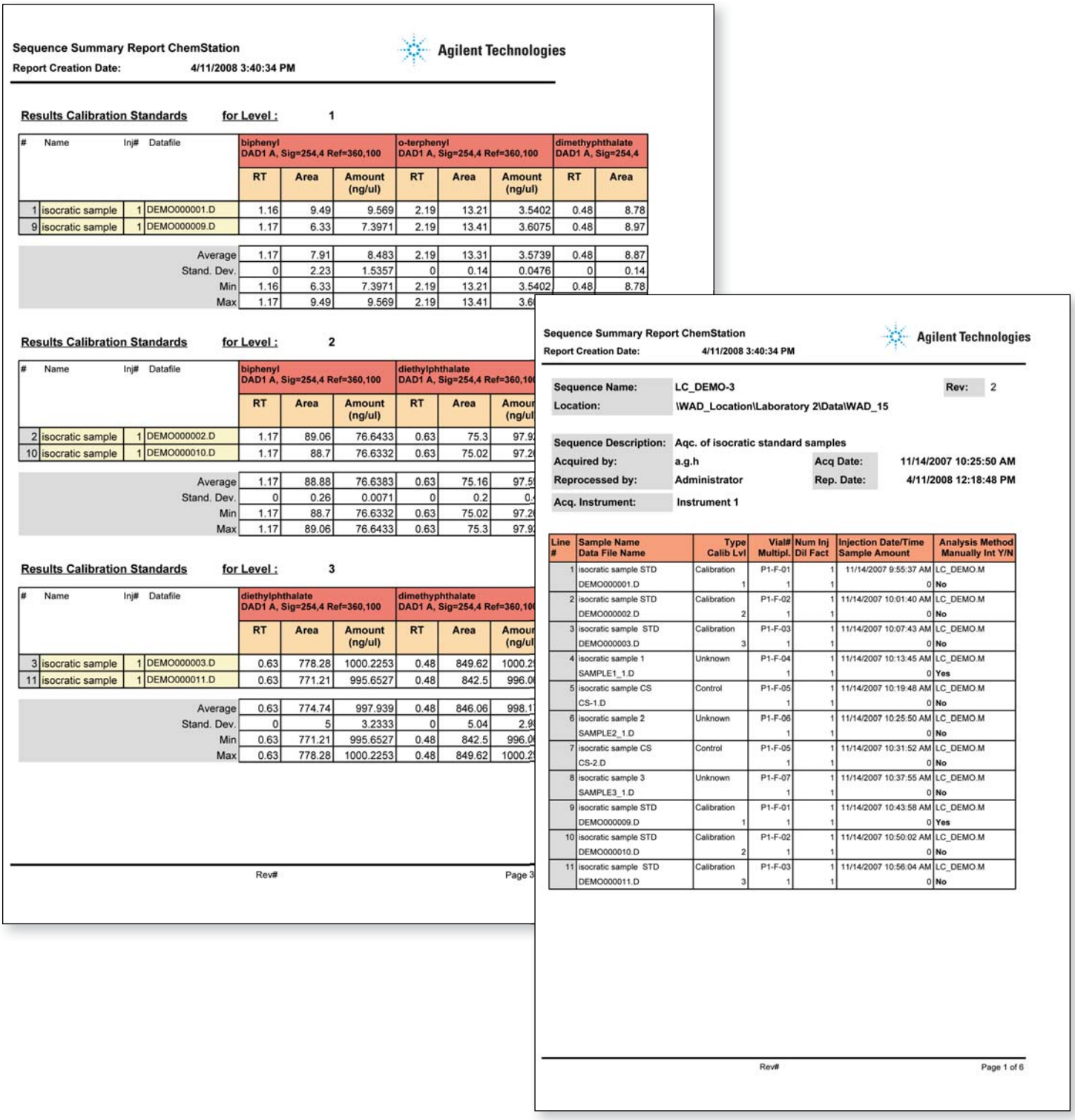
Page 1 of 1

Manual Integration Summary

All the unknowns, calibration standards, and QC standard are analyzed by setting manual integration parameters. The report summarizes results by type of run.



Sequence Summary Report ChemStation
Report Creation Date: 4/11/2008 3:40:34 PM
Agilent Technologies

Results Calibration Standards for Level : 1

#	Name	Inj#	Datafile	biphenyl DAD1 A, Sig=254,4 Ref=360,100 RT	Area	Amount (ng/ul)	o-terphenyl DAD1 A, Sig=254,4 Ref=360,100 RT	Area	Amount (ng/ul)	dimethyphthalate DAD1 A, Sig=254,4 RT	Area
1	isocratic sample	1	DEMO000001.D	1.16	9.49	9.569	2.19	13.21	3.5402	0.48	8.78
9	isocratic sample	1	DEMO000009.D	1.17	6.33	7.3971	2.19	13.41	3.6075	0.48	8.97
			Average	1.17	7.91	8.483	2.19	13.31	3.5739	0.48	8.87
			Stand. Dev.	0	2.23	1.5357	0	0.14	0.0476	0	0.14
			Min	1.16	6.33	7.3971	2.19	13.21	3.5402	0.48	8.78
			Max	1.17	9.49	9.569	2.19	13.41	3.6		

Results Calibration Standards for Level : 2

#	Name	Inj#	Datafile	biphenyl DAD1 A, Sig=254,4 Ref=360,100 RT	Area	Amount (ng/ul)	diethylphthalate DAD1 A, Sig=254,4 Ref=360,10 RT	Area	Amou (ng/ul
2	isocratic sample	1	DEMO000002.D	1.17	89.06	76.6433	0.63	75.3	97.9
10	isocratic sample	1	DEMO000010.D	1.17	88.7	76.6332	0.63	75.02	97.2
			Average	1.17	88.88	76.6383	0.63	75.16	97.5
			Stand. Dev.	0	0.26	0.0071	0	0.2	0.4
			Min	1.17	88.7	76.6332	0.63	75.02	97.2
			Max	1.17	89.06	76.6433	0.63	75.3	97.9

Results Calibration Standards for Level : 3

#	Name	Inj#	Datafile	diethylphthalate DAD1 A, Sig=254,4 Ref=360,100 RT	Area	Amount (ng/ul)	dimethyphthalate DAD1 A, Sig=254,4 Ref=360,10 RT	Area	Amou (ng/ul
3	isocratic sample	1	DEMO000003.D	0.63	778.28	1000.2253	0.48	849.62	1000.2
11	isocratic sample	1	DEMO000011.D	0.63	771.21	995.6527	0.48	842.5	996.0
			Average	0.63	774.74	997.939	0.48	846.06	998.1
			Stand. Dev.	0	5	3.2333	0	5.04	2.9
			Min	0.63	771.21	995.6527	0.48	842.5	996.0
			Max	0.63	778.28	1000.2253	0.48	849.62	1000.2

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Sequence Summary Report ChemStation
Report Creation Date: 4/11/2008 3:40:34 PM
Agilent Technologies

Sequence Name:	LC_DEMO-3	Rev:	2
Location:	\WAD_Location\Laboratory 2\Data\WAD_15		
Sequence Description:	Aqc. of isocratic standard samples		
Acquired by:	a.g.h	Acq Date:	11/14/2007 10:25:50 AM
Reprocessed by:	Administrator	Rep. Date:	4/11/2008 12:18:48 PM
Acq. Instrument:	Instrument 1		

Line #	Sample Name / Data File Name	Type / Calib Lvl	Vial# / Multipl.	Num Inj / Dil Fact	Injection Date/Time / Sample Amount	Analysis Method / Manually Int Y/N
1	isocratic sample STD	Calibration	P1-F-01	1	11/14/2007 9:55:37 AM	LC_DEMO.M
	DEMO000001.D	1	1	1	0	No
2	isocratic sample STD	Calibration	P1-F-02	1	11/14/2007 10:01:40 AM	LC_DEMO.M
	DEMO000002.D	2	1	1	0	No
3	isocratic sample STD	Calibration	P1-F-03	1	11/14/2007 10:07:43 AM	LC_DEMO.M
	DEMO000003.D	3	1	1	0	No
4	isocratic sample 1	Unknown	P1-F-04	1	11/14/2007 10:13:45 AM	LC_DEMO.M
	SAMPLE1_1.D		1	1	0	Yes
5	isocratic sample CS	Control	P1-F-05	1	11/14/2007 10:19:48 AM	LC_DEMO.M
	CS-1.D		1	1	0	No
6	isocratic sample 2	Unknown	P1-F-06	1	11/14/2007 10:25:50 AM	LC_DEMO.M
	SAMPLE2_1.D		1	1	0	No
7	isocratic sample CS	Control	P1-F-05	1	11/14/2007 10:31:52 AM	LC_DEMO.M
	CS-2.D		1	1	0	No
8	isocratic sample 3	Unknown	P1-F-07	1	11/14/2007 10:37:55 AM	LC_DEMO.M
	SAMPLE3_1.D		1	1	0	No
9	isocratic sample STD	Calibration	P1-F-01	1	11/14/2007 10:43:58 AM	LC_DEMO.M
	DEMO000009.D	1	1	1	0	Yes
10	isocratic sample STD	Calibration	P1-F-02	1	11/14/2007 10:50:02 AM	LC_DEMO.M
	DEMO000010.D	2	1	1	0	No
11	isocratic sample STD	Calibration	P1-F-03	1	11/14/2007 10:56:04 AM	LC_DEMO.M
	DEMO000011.D	3	1	1	0	No

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