VERMONT FORENSIC LABORATORY

PO BOX 47
WATERBURY, VERMONT 05676-0047
TEL: 802-244-8788
FAX: 802-241-5557
http://vfl.vermont.gov

Certificate of Analysis of DataMaster Certification Solution

On 5/8/2012, an ethanol solution was prepared by Amanda Bolduc for use as a DataMaster Certification solution. The solution was prepared per standard laboratory practice and assigned the lot number 12-78-020 and an expiration date of 5/8/2013.

On 5/11/2012 and 5/14/2012, the solution was analyzed against calibration SimCal05112012 and SimCal05142012. Analysis of the solution was performed using headspace gas chromatography. The instrument was calibrated prior to analyses. It was found to have met required quality assurance performance specifications and was operating properly. Quality checks throughout the analytical process demonstrated that the instrument continued to operate properly.

This solution is certified as presenting 0.019 g/210L simulated breath ethanol concentration and approved for use as a DataMaster External Standard solution.

Dated at Waterbury, Vermont on Tuesday, May 15, 2012.

Amanda Bolduc

0.02 Certification Solution 5L
Lot # 12-78-020
Prepared 05/08/2012 by ALB
Exp 05/08/2013

ALB Cal SimCal 05112012
ALB/TLC Vials
Analyzed on 5/11/2012

0.0194 alb
0.0198
0.0194
0.0198
0.0193
0.0199
0.0193
0.0195 tlc
0.0189
0.0194
0.0191
0.0196
0.0189
0.0195

Ave. = 0.0194
Std Dev. = 0.0003
Range = 0.0189 - 0.0199

TLC CAL SimCal 05142012
ALB/TLC Vials
Analyzed on 5/14/2012

0.0193 tlc
0.0198
0.0192
0.0197
0.0192
0.0198
0.0191
0.0196 alb
0.0195
0.0198
0.0192
0.0197
0.0194
0.0197

Ave. = 0.0195
Std Dev. = 0.0003
Range = 0.0191 - 0.0198

Total Values from Both Runs

Average	Mean
0.0194	0.0189
0.0198	
0.0194	0.0191
0.0198	
0.0193	0.0192
0.0199	
0.0193	
0.0195	0.0193
0.0189	
0.0194	
0.0191	0.0194
0.0196	
0.0189	
0.0195	
0.0193	0.0195
0.0198	
0.0192	
0.0197	0.0196
0.0192	
0.0198	0.0197
0.0191	
0.0196	
0.0195	0.0198
0.0198	
0.0192	
0.0197	
0.0194	
0.0197	0.0199

Ave. =	0.0195
Std Dev. =	0.0003
Range =	0.0189 - 0.0199
Mean =	0.0194
Mean Std Dev. =	0.0003
RPD (Mean to Ave.)=	0.51%

5/15/2012

Headspace Alcohol Analysis Standards Coversheet

Analyst: DLB Date: 5/11/12

Calibration Standards:

Lot ID: ES-05102012 Preparation Date: 05/10/2012 Expiration Date: 08/10/2012

	Standard A	Standard B	Standard C	Standard D	Standard E	Calibration Check
% Ethanol (w/v)	0.006	0.023	0.087	0.211	0.414	
Acceptance Range (± 10%)	0.007	0.025	0.096	0.232	0.455	
	0.005	0.021	0.078	0.190	0.372	

Control Sample:

Sample	Source	Lot number	Target Value	Acceptance Range	
Aqueous	Cerilliant	FN111711-01	0.100	0.110	0.090

Calibration and Control Sample Data:

Vial No.	Sample Identification		Result	In Range?	Comments
1	Blank		<0.005	(Y) N	
2	Compound Retention Times:			N/A	
		Acetaldehyde	1.92		
		Methanol	2.02		
		Ethanol	2.66		
		Acetone	3.07		
		Isopropanol	3.20		
		T- butanol	3.64		
		n-propanol	4.45		
3	Standard A		0.006	(Y) N	
4	Standard B		0.023	(Y) N	
5	Standard C		0.086	(Y) N	
6	Standard D		0.207	(Y) N	
7	Standard E		0.416	(Y) N	
8	Aqueous QC		0.1006	(Y) N	
9	Aqueous QC		0.0992	(Y) N	$\bar{x}$ = 0.100 ✓

5/15/2012

File Name: C:\Methods\SimCal 05112012.cal
Version: 7

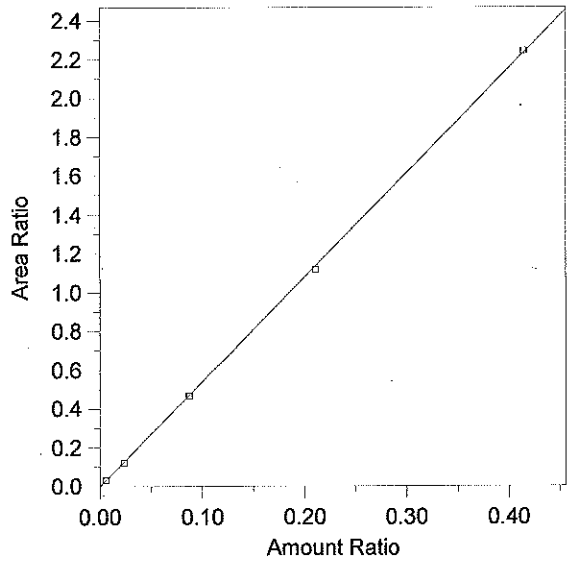
Creator:
Description:
Reason for change:

Internal standard calibration
No injection volume correction
No sample weight correction
Area reject threshold: 1000
Reference peak area reject threshold: 0
Amount units:
No default component

Method of calculating data point averages: Equal weight for all updates
No calibration update report

All levels are normal data points.

3 Ethanol



Expected retention time: 2.666 minutes
Search window: 0.1 minutes
Internal standard component: 7 (n-Propanol)
No retention time reference component
Group number: 0

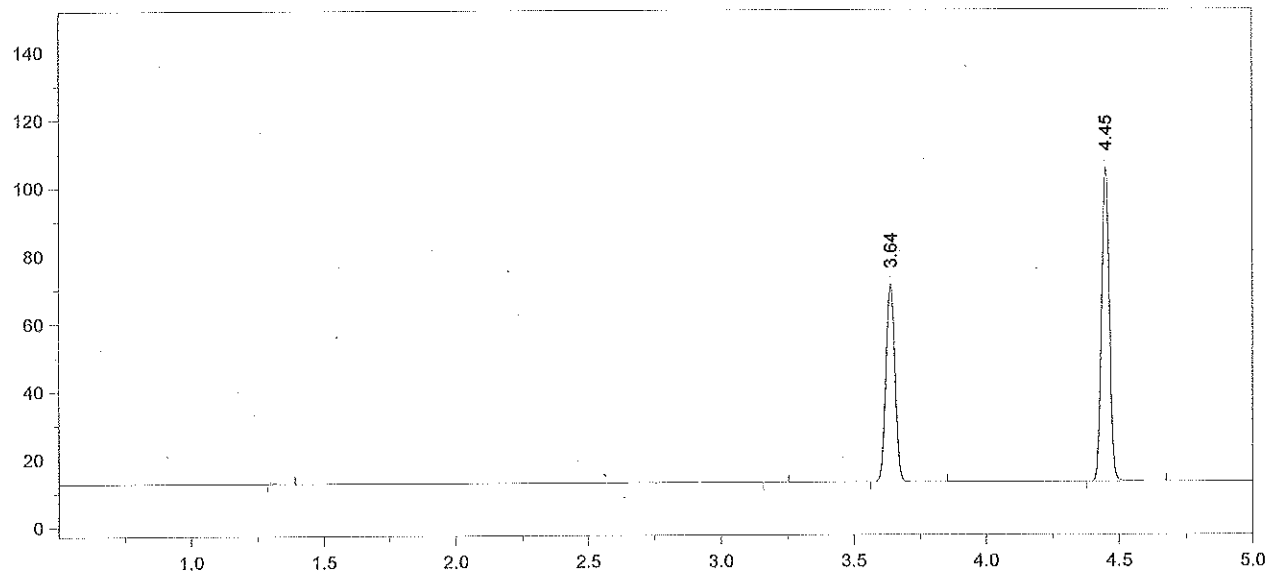
High alarm limit: 0
Low alarm limit: 0
Component constant: 0

Single peak quantification by area

$Y = 5.387655 X + 0$

Linear fit with equal weighting, forced to origin
Coefficient of determination: 0.9998448
Average error: 1.747%
Average CF: 5.303887
RSD: 1.562%

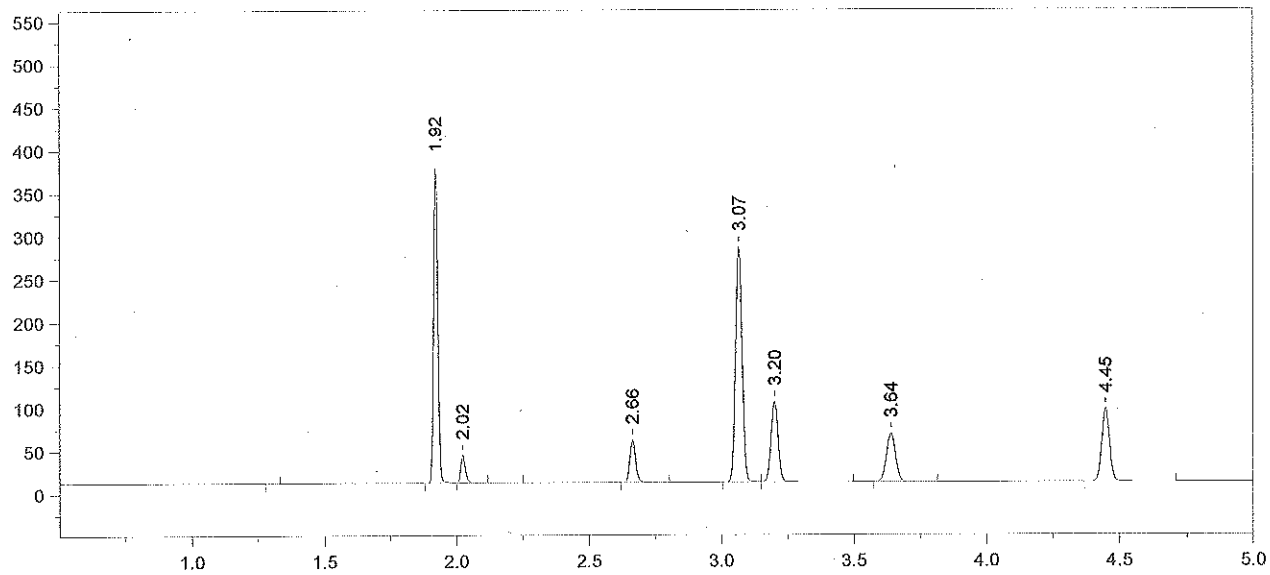
Level	Amount	Response	Cal Factor	Error, %	Amount Ratio	Response Ratio	Source	Date and time
1	(0.081)	(85146)	--	--	0.081	85146	Manual	5/11/2012 8:03:03 AM
2	0.0059	5628.357	953958.8	-2.659	0.0059	3.094204E-02	C:\Alcohol Data\SIM05112012\SIM05112012.0003.BND	5/11/2012 2:03:45 PM
3	0.0235	22032.96	937572.8	-3.314	0.0235	0.1224136	C:\Alcohol Data\SIM05112012\SIM05112012.0004.BND	5/11/2012 2:21:29 PM
4	0.0869	83294.05	958504.5	-0.565	0.0869	0.4655408	C:\Alcohol Data\SIM05112012\SIM05112012.0005.BND	5/11/2012 2:35:38 PM
5	0.2107	213590.5	1013719	-1.715	0.2107	1.115708	C:\Alcohol Data\SIM05112012\SIM05112012.0006.BND	5/11/2012 2:51:15 PM
6	0.4144	414630	1000555	0.479	0.4144	2.24335	C:\Alcohol Data\SIM05112012\SIM05112012.0007.BND	5/11/2012 3:06:45 PM



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:37:57 AM
Bound File Name = SIM05112012.0001.RAW
Sample Name = Blank
Date Taken = 5/11/2012 1:31:59 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

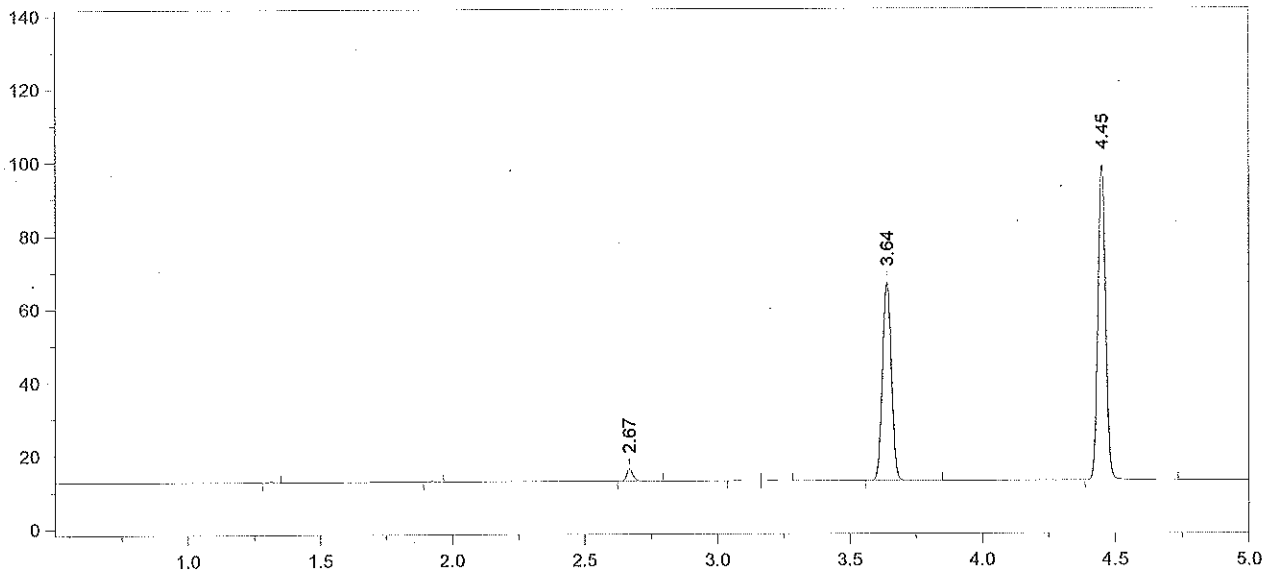
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	3.64	t-Butanol	134759	0.9690	0.7909
4	4.45	n-Propanol	196545	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:38:05 AM
Bound File Name = SIM05112012.0002.RAW
Sample Name = TMX
Date Taken = 5/11/2012 1:49:58 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

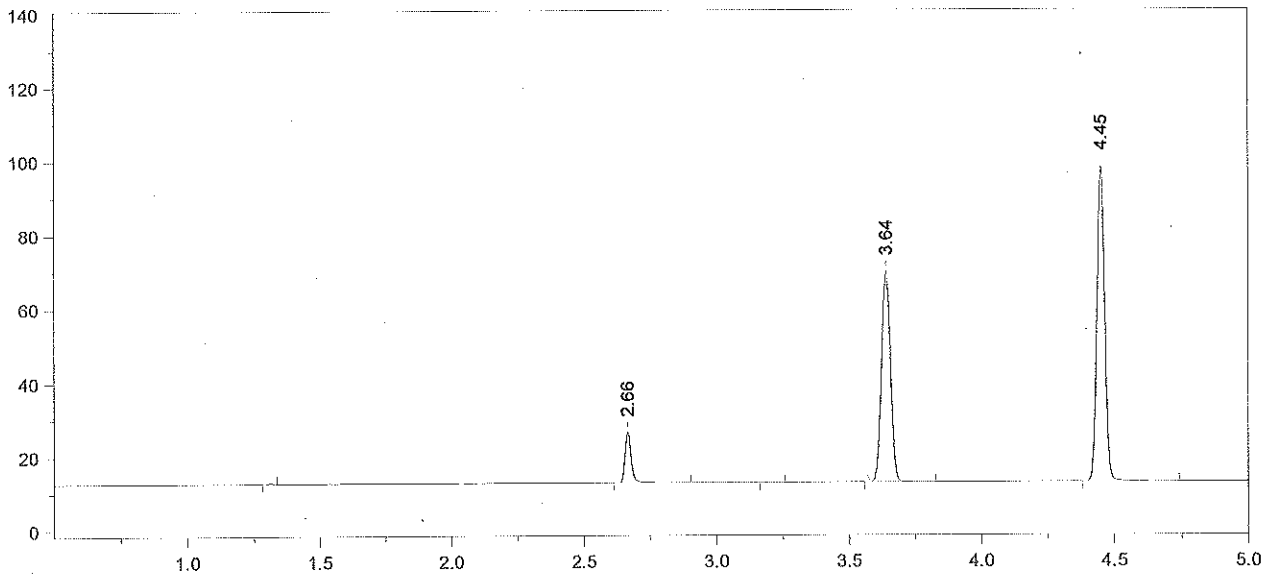
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	1.92	Acetaldehyde	419689	0.0900	0.0735
3	2.02	Methanol	39498	0.0920	0.0751
4	2.66	Ethanol	76106	0.0786	0.0642
5	3.07	Acetone	463012	0.0920	0.0751
6	3.20	Isopropanol	175288	0.1230	0.1004
7	3.64	t-Butanol	129769	1.0209	0.8333
8	4.45	n-Propanol	179649	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:38:12 AM
Bound File Name = SIM05112012.0003.RAW
Sample Name = STD A
Date Taken = 5/11/2012 2:03:36 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

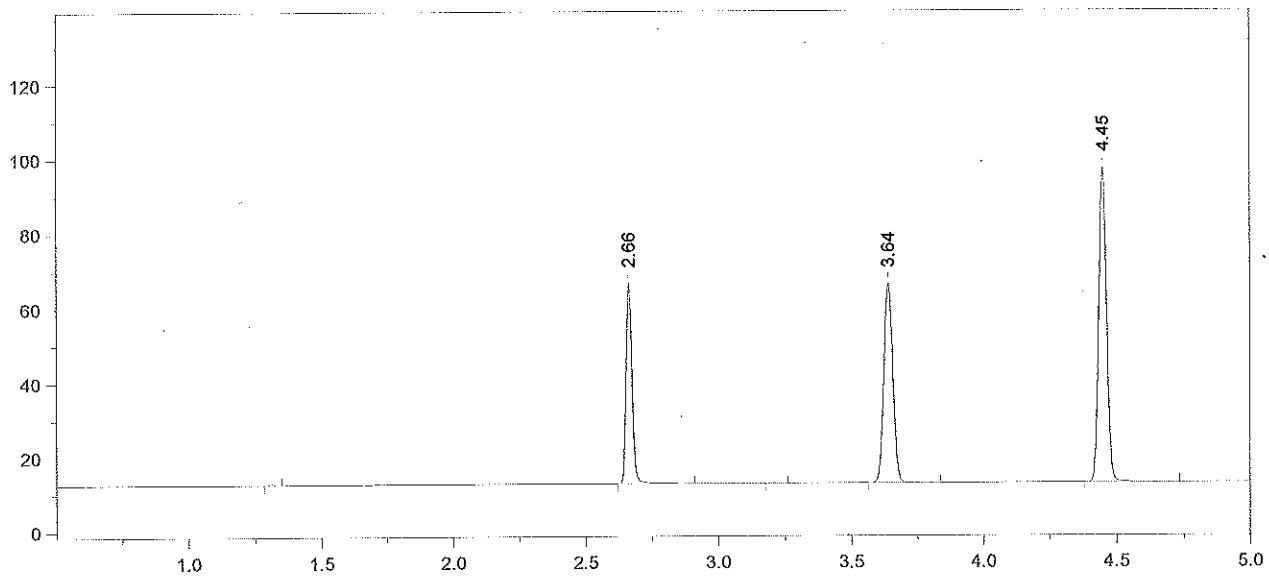
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.67	Ethanol	05628	0.0057	0.0047
6	3.64	t-Butanol	125600	0.9759	0.7965
7	4.45	n-Propanol	181900	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:38:20 AM
Bound File Name = SIM05112012.0004.RAW
Sample Name = STD B
Date Taken = 5/11/2012 2:21:22 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

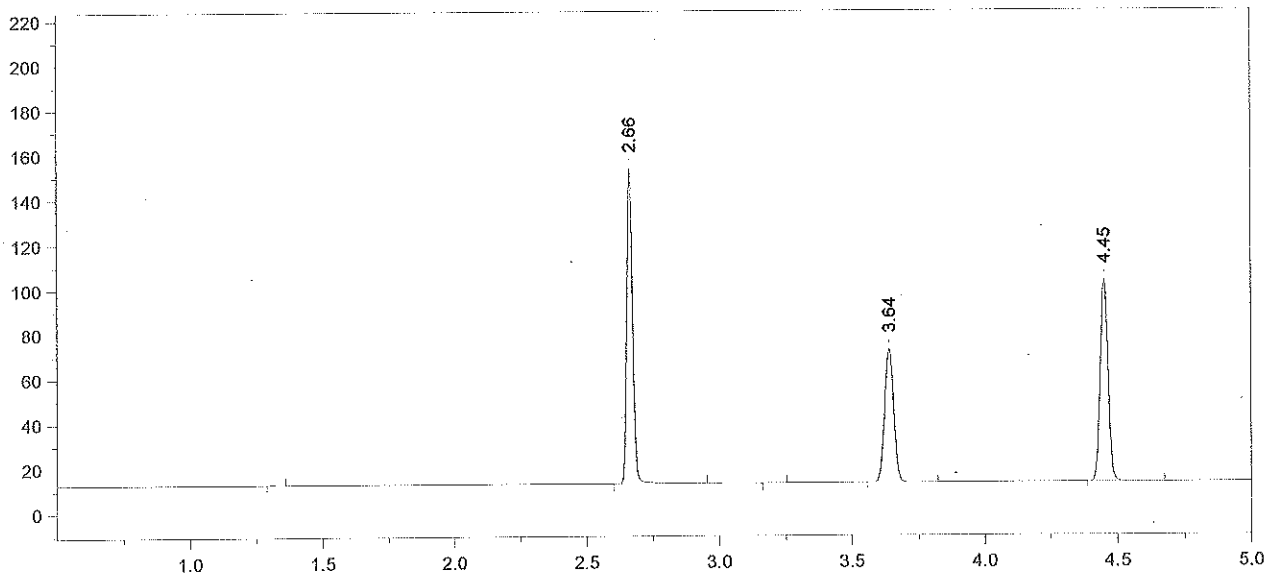
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22033	0.0227	0.0185
4	3.64	t-Butanol	131898	1.0357	0.8453
5	4.45	n-Propanol	179988	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:38:29 AM
Bound File Name = SIM05112012.0005.RAW
Sample Name = STD C
Date Taken = 5/11/2012 2:35:25 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

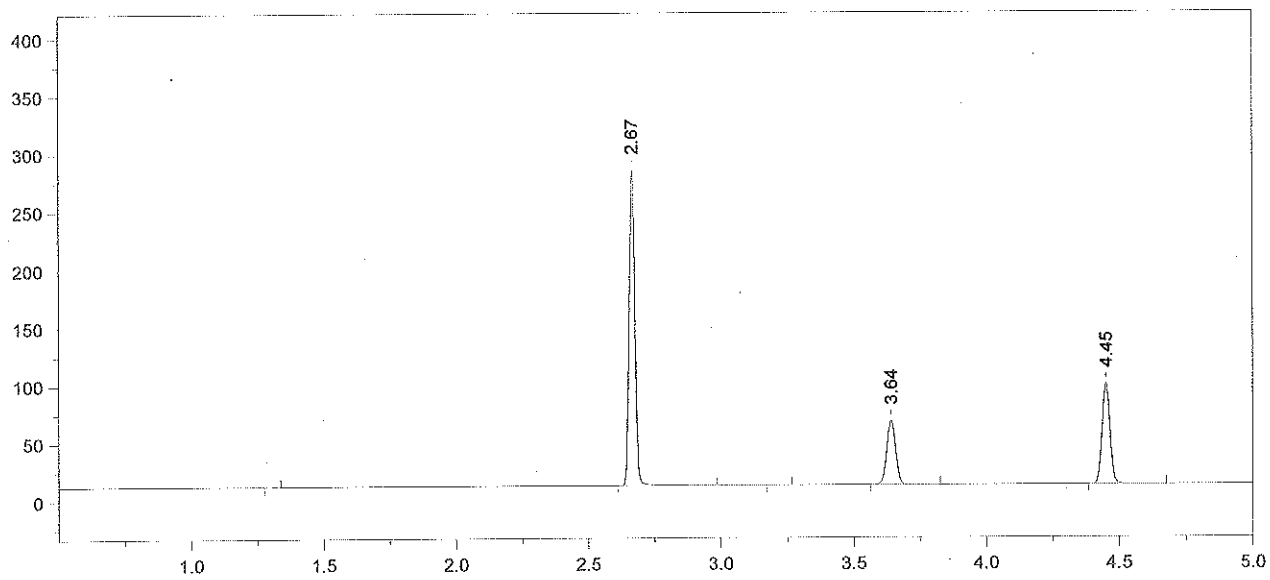
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	83294	0.0864	0.0705
4	3.64	t-Butanol	123354	0.9744	0.7953
5	4.45	n-Propanol	178919	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012
Today's Time = 8:38:37 AM
Bound File Name = SIM05112012.0006.RAW
Sample Name = STD D
Date Taken = 5/11/2012 2:51:06 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal
Calibration Version = 7

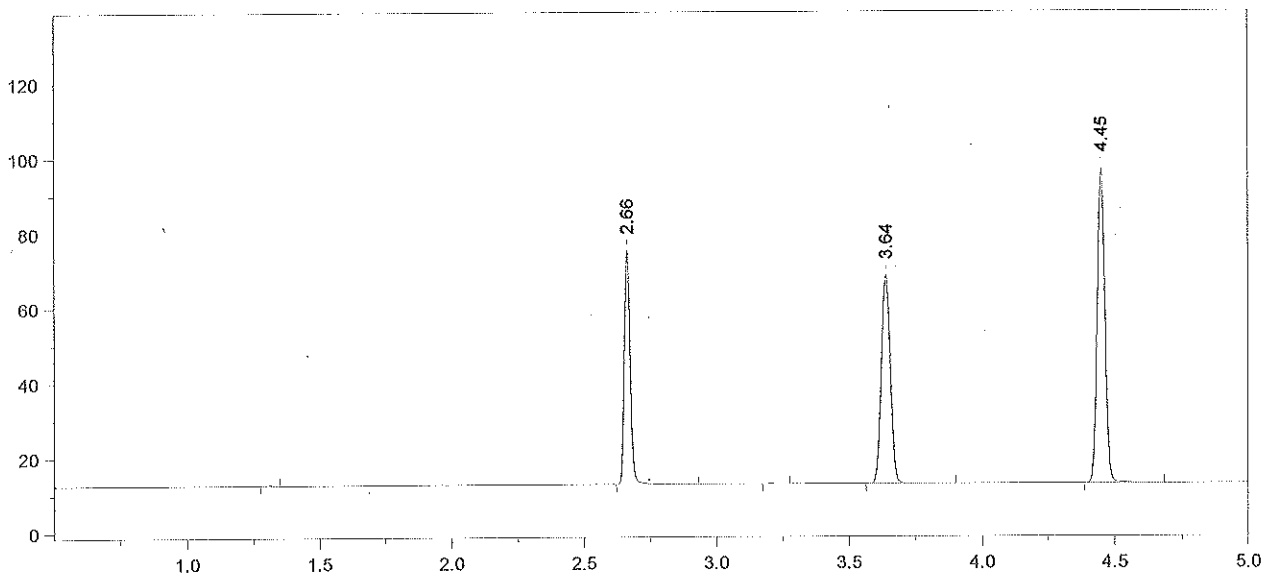
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	213591	0.2071	0.1690
4	3.64	t-Butanol	137669	1.0164	0.8295
5	4.45	n-Propanol	191440	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:38:46 AM
Bound File Name = SIM05112012.0007.RAW
Sample Name = STD E
Date Taken = 5/11/2012 3:06:34 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

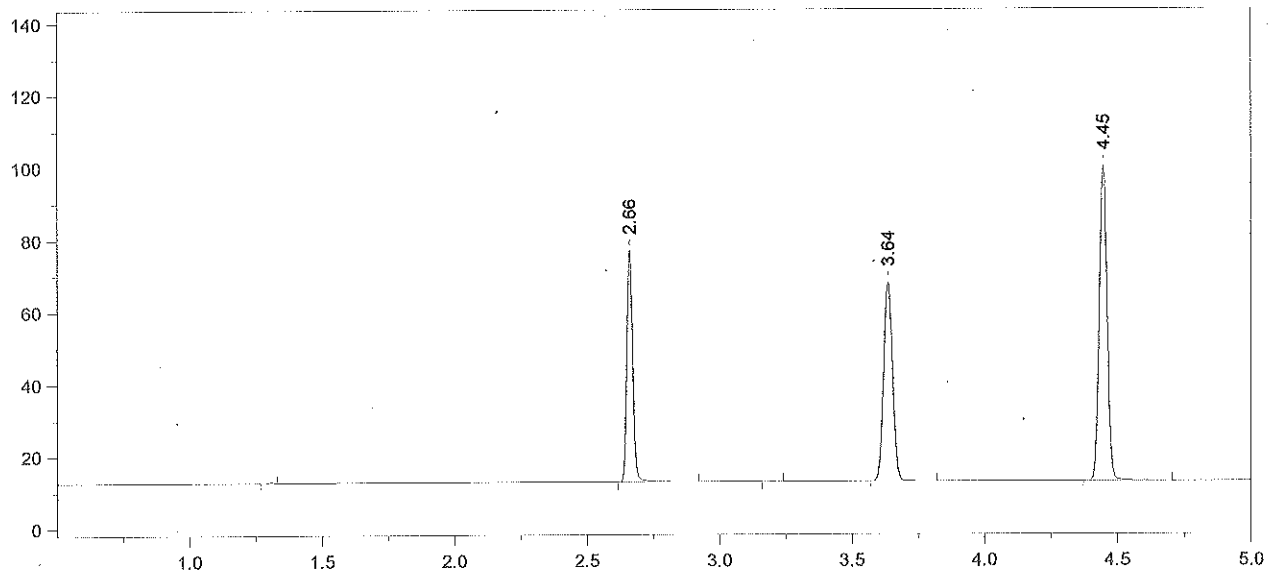
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	414630	0.4164	0.3399
4	3.64	t-Butanol	127732	0.9767	0.7972
5	4.45	n-Propanol	184826	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:38:55 AM
Bound File Name = SIM05112012.0008.RAW
Sample Name = AQ QC
Date Taken = 5/11/2012 3:22:36 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

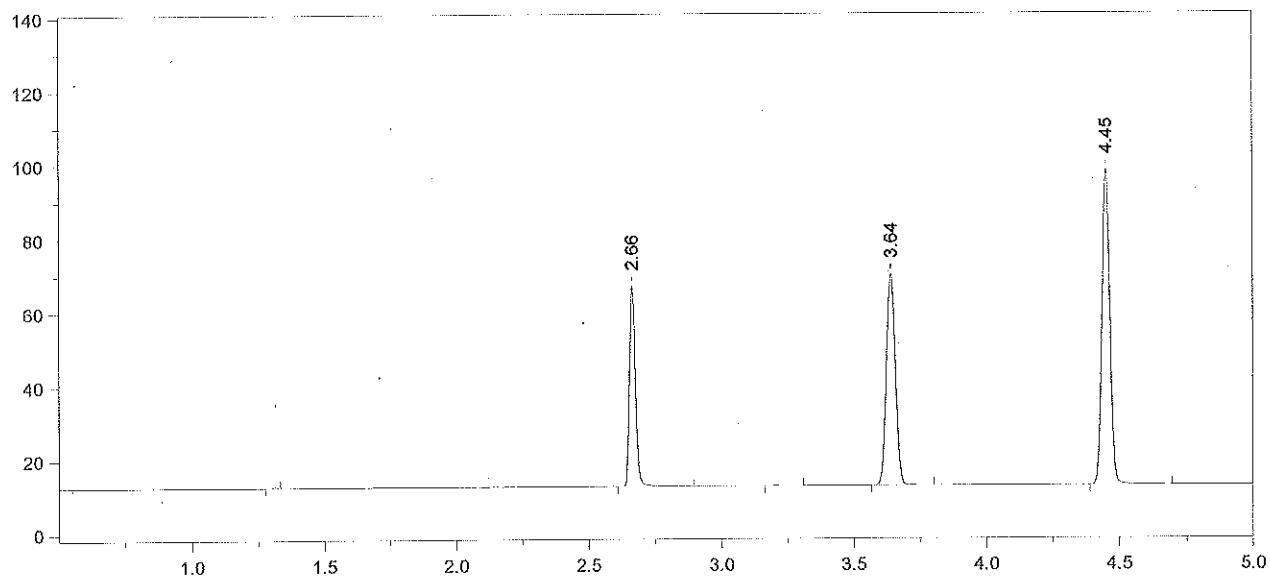
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	96441	0.1006	0.0821
4	3.64	t-Butanol	128773	1.0224	0.8345
5	4.45	n-Propanol	178011	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:39:03 AM
Bound File Name = SIM05112012.0009.RAW
Sample Name = AQ QC
Date Taken = 5/11/2012 3:36:49 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

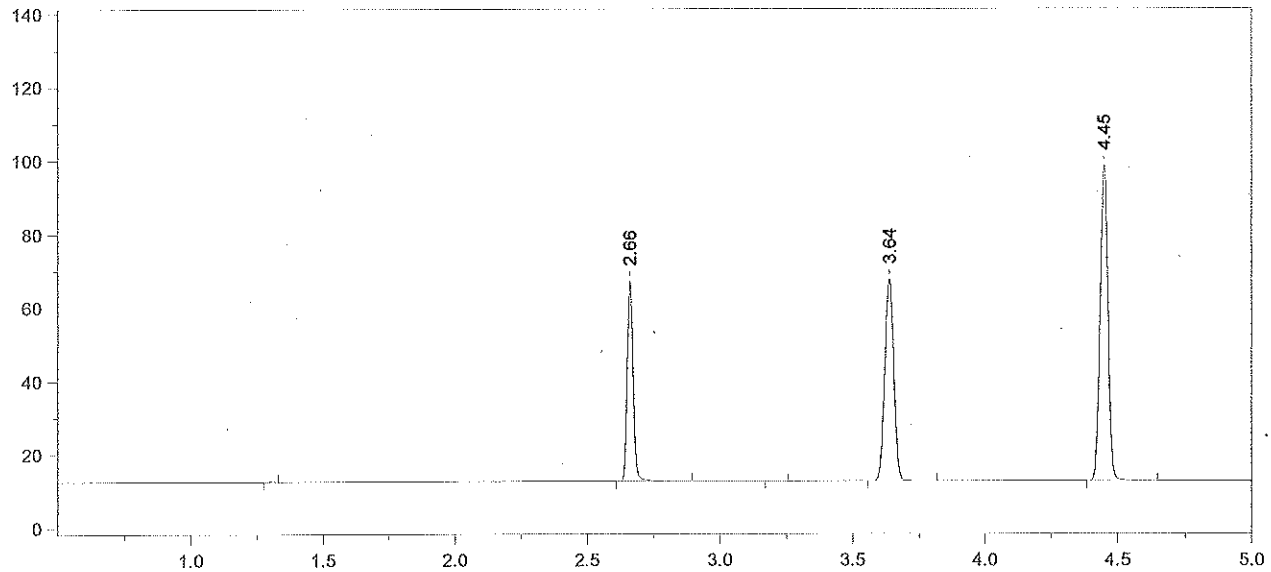
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	98676	0.0992	0.0809
4	3.64	t-Butanol	127445	0.9754	0.7961
5	4.45	n-Propanol	184673	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:39:13 AM
Bound File Name = SIM05112012.0028.RAW
Sample Name = CCS
Date Taken = 5/11/2012 8:35:11 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

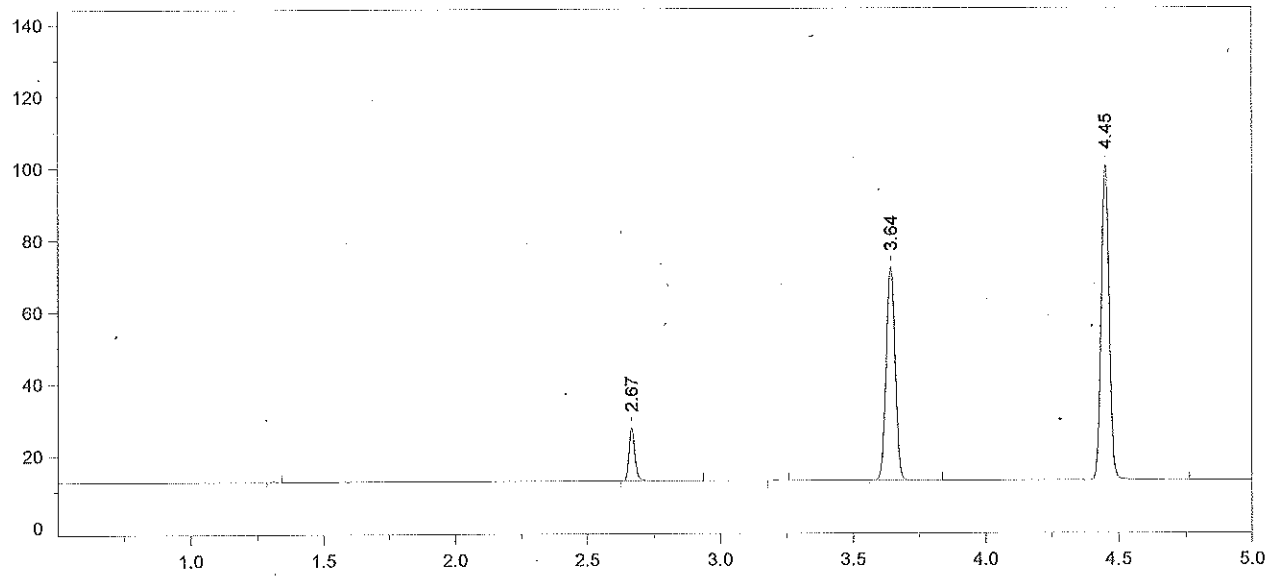
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	84459	0.0863 ✓	0.0704
4	3.64	t-Butanol	132310	1.0293	0.8401
5	4.45	n-Propanol	181677	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/14/2012 Today's Time = 8:39:21 AM
Bound File Name = SIM05112012.0029.RAW
Sample Name = CCS
Date Taken = 5/11/2012 8:48:24 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

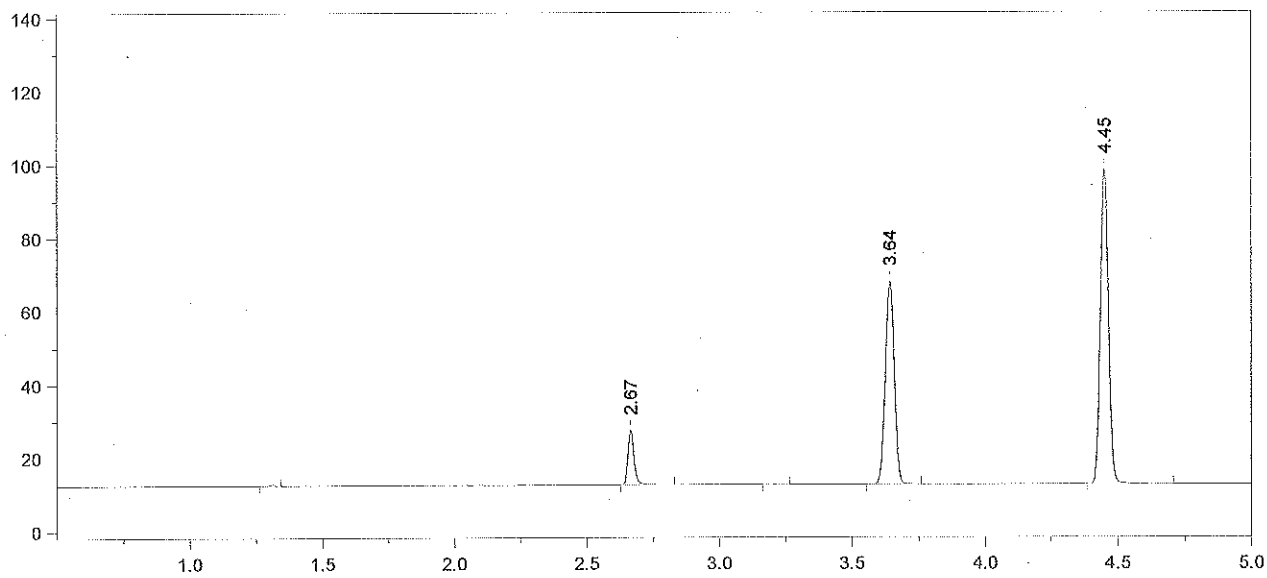
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	84202	0.0855	0.0698
4	3.64	t-Butanol	126359	0.9773	0.7977
5	4.45	n-Propanol	182726	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 9:06:46 PM
Bound File Name = SIM05112012.0030.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/11/2012 9:06:35 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

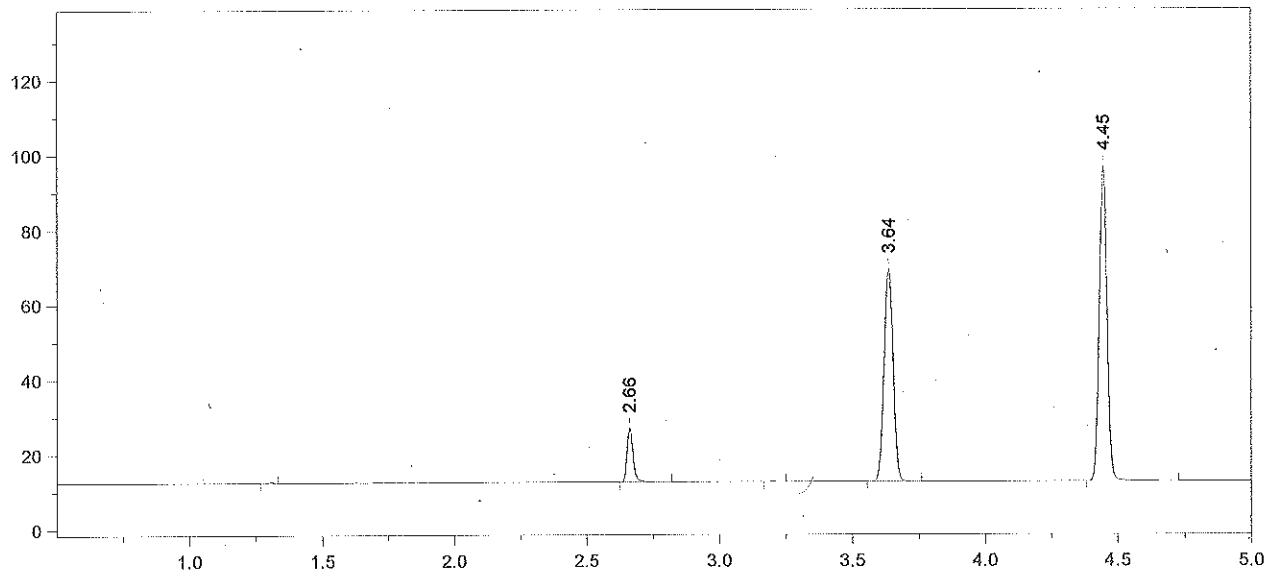
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	23844	0.0237	0.0194
4	3.64	t-Butanol	137280	1.0399	0.8487
5	4.45	n-Propanol	186585	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 9:20:28 PM
Bound File Name = SIM05112012.0031.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/11/2012 9:20:21 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

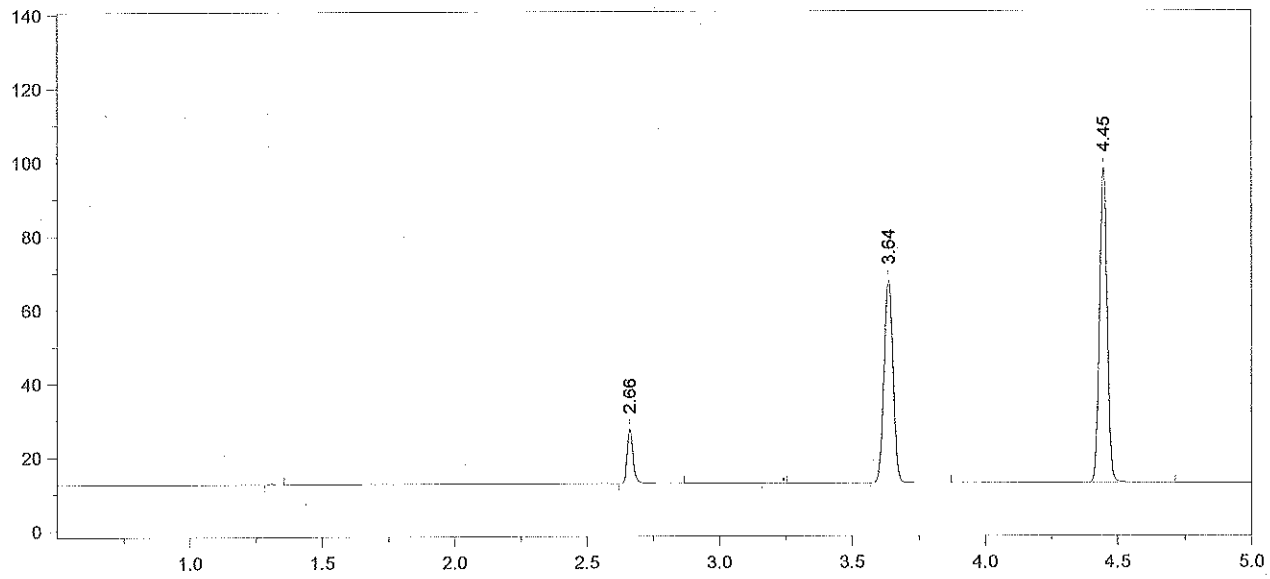
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	23788	0.0242	0.0198
4	3.64	t-Butanol	127641	0.9894	0.8076
5	4.45	n-Propanol	182329	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012
Today's Time = 9:38:14 PM
Bound File Name = SIM05112012.0032.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/11/2012 9:38:03 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal
Calibration Version = 7

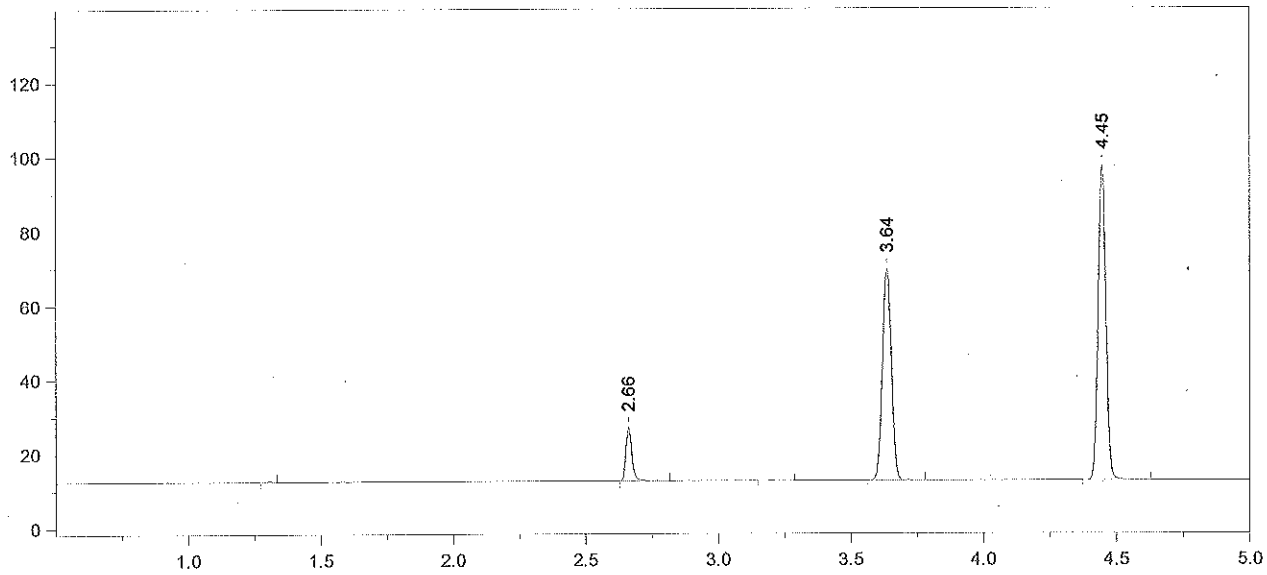
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22789	0.0238	0.0194
4	3.64	t-Butanol	130391	1.0363	0.8458
5	4.45	n-Propanol	177834	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 9:52:05 PM
Bound File Name = SIM05112012.0033.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/11/2012 9:51:55 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

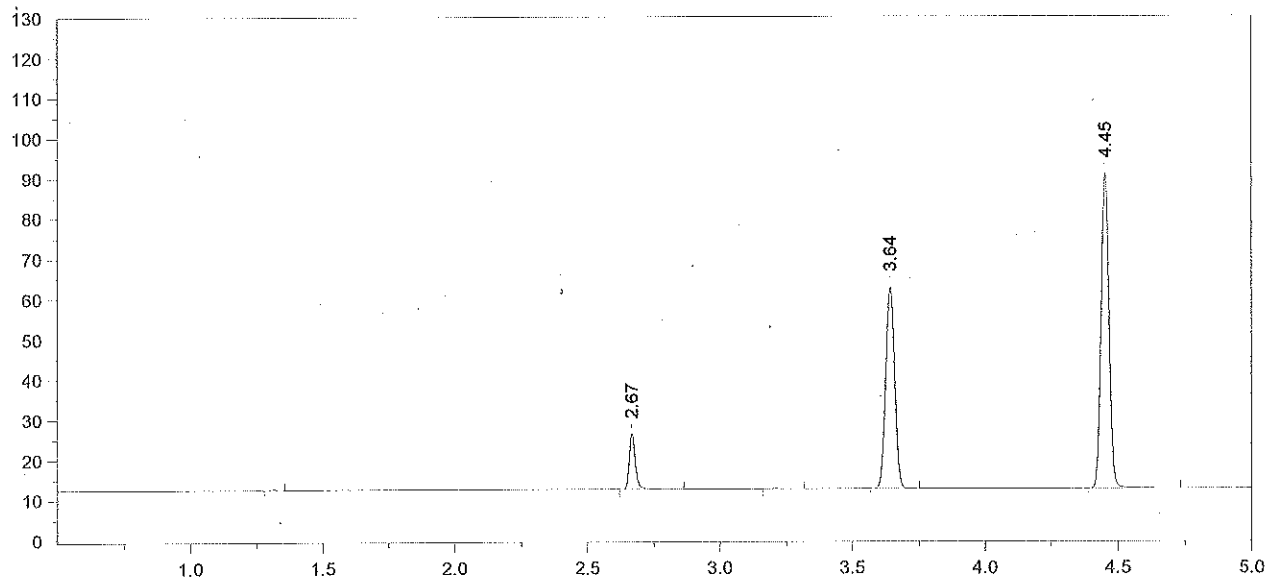
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	23554	0.0242	0.0198
4	3.64	t-Butanol	127108	0.9958	0.8127
5	4.45	n-Propanol	180407	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012
Today's Time = 10:09:41 PM
Bound File Name = SIM05112012.0034.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/11/2012 10:09:30 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal
Calibration Version = 7

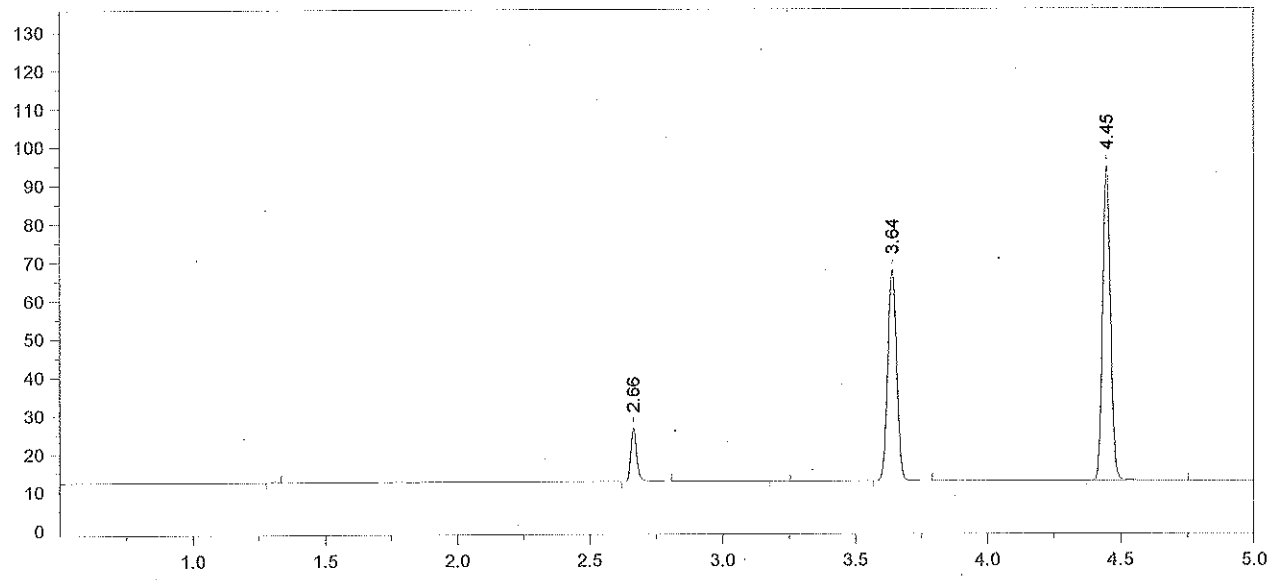
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22915	0.0237	0.0193
4	3.64	t-Butanol	131736	1.0368	0.8463
5	4.45	n-Propanol	179569	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 10:23:24 PM
Bound File Name = SIM05112012.0035.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/11/2012 10:23:12 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

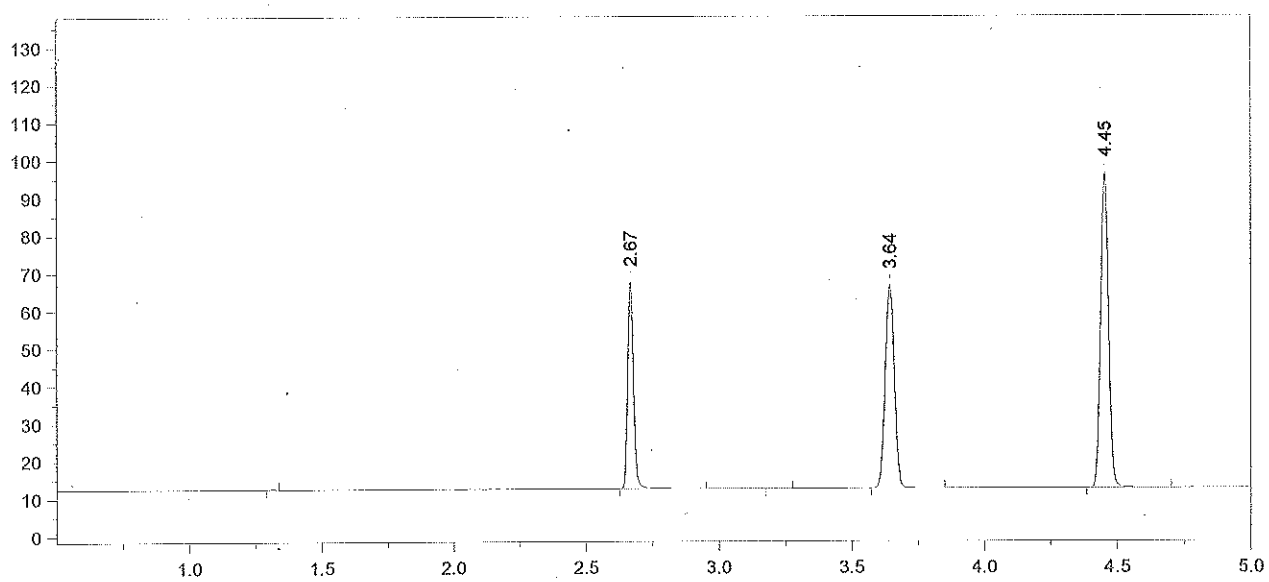
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	21845	0.0244	0.0199
4	3.64	t-Butanol	115426	0.9801	0.7999
5	4.45	n-Propanol	166455	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 10:41:06 PM
Bound File Name = SIM05112012.0036.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/11/2012 10:40:56 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

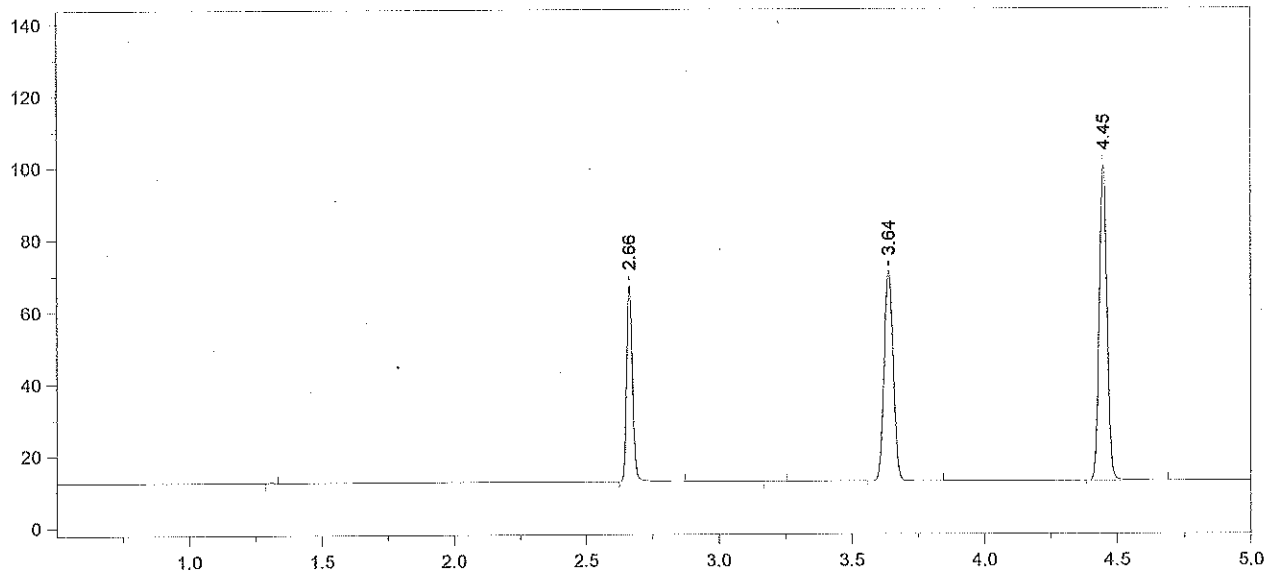
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22180	0.0237	0.0193
4	3.64	t-Butanol	126967	1.0316	0.8420
5	4.45	n-Propanol	173954	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 10:54:45 PM
Bound File Name = SIM05112012.0037.RAW
Sample Name = CCS
Date Taken = 5/11/2012 10:54:39 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

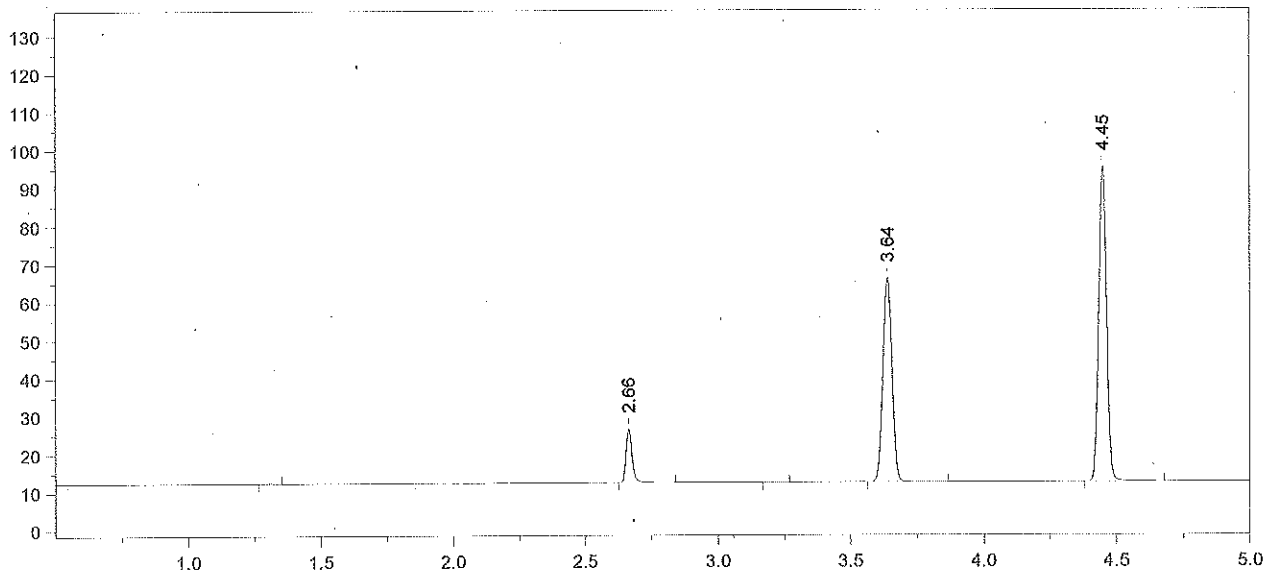
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	84988	0.0888 ✓	0.0724
4	3.64	t-Butanol	124437	0.9896	0.8077
5	4.45	n-Propanol	177722	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 11:12:32 PM
Bound File Name = SIM05112012.0038.RAW
Sample Name = CCS
Date Taken = 5/11/2012 11:12:20 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

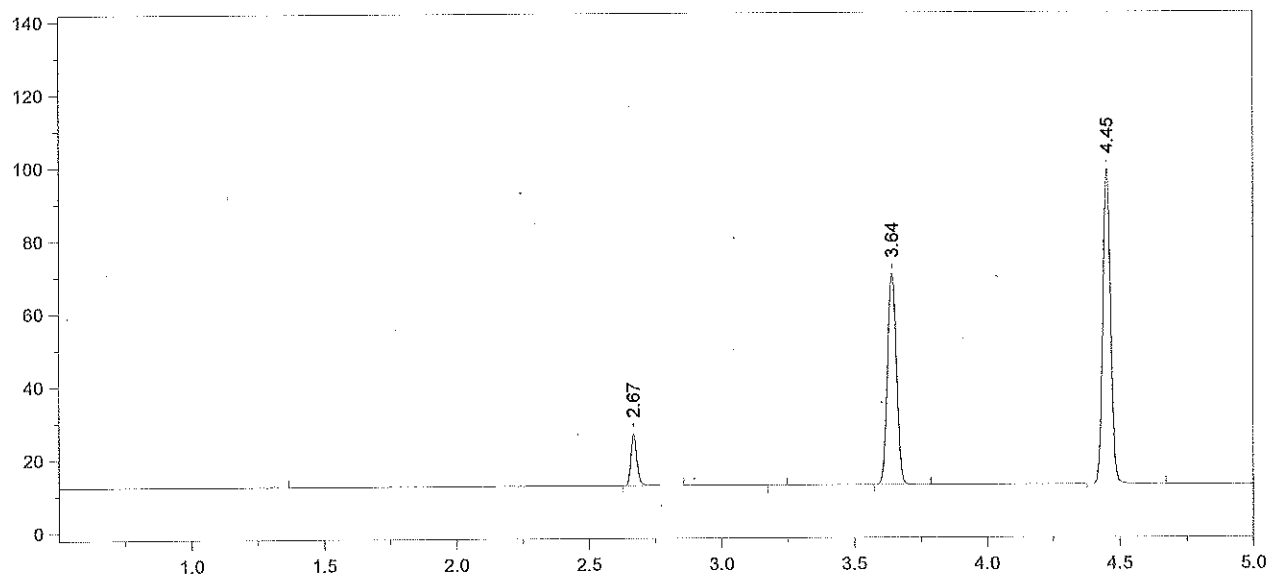
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	84496	0.0846 ✓	0.0691
4	3.64	t-Butanol	135234	1.0311	0.8416
5	4.45	n-Propanol	185361	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 11:26:22 PM
Bound File Name = SIM05112012.0039.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/11/2012 11:26:14 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

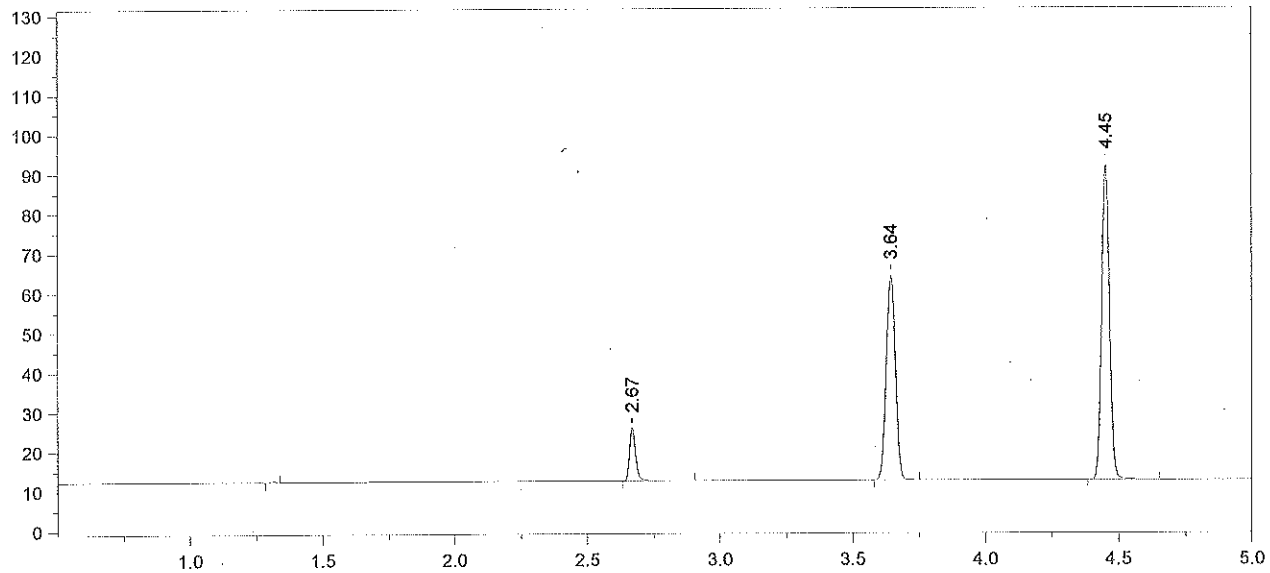
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22542	0.0238	0.0195
4	3.64	t-Butanol	123883	0.9975	0.8142
5	4.45	n-Propanol	175523	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012
Today's Time = 11:44:03 PM
Bound File Name = SIM05112012.0040.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/11/2012 11:43:47 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal
Calibration Version = 7

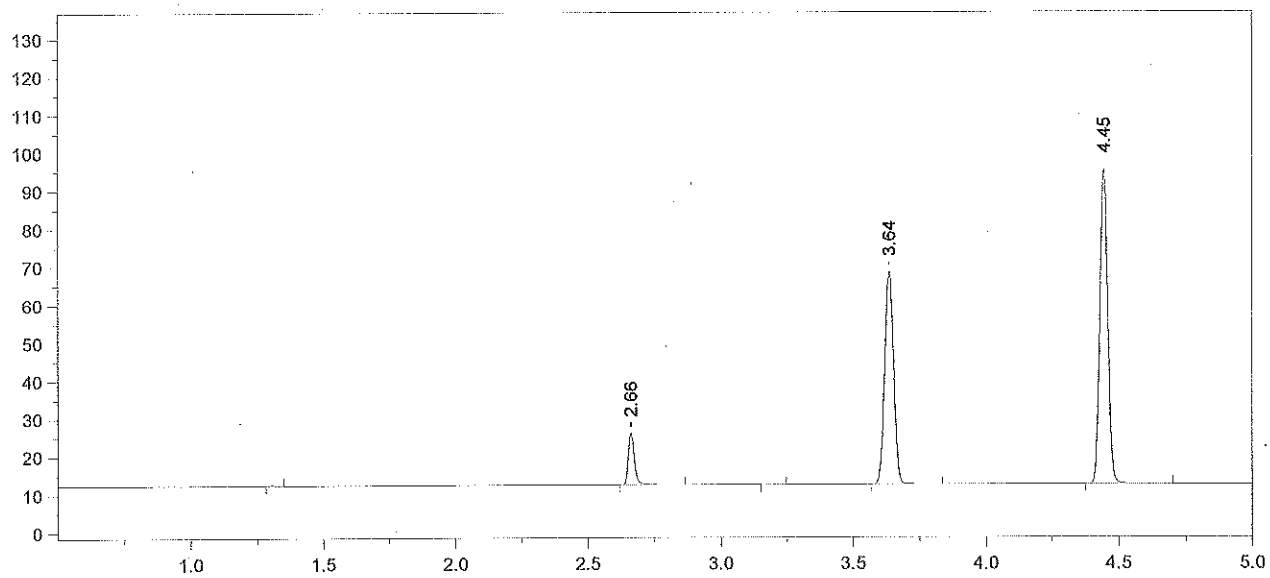
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	22772	0.0232	0.0189
4	3.64	t-Butanol	133795	1.0357	0.8454
5	4.45	n-Propanol	182572	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/11/2012 Today's Time = 11:57:43 PM
Bound File Name = SIM05112012.0041.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/11/2012 11:57:32 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

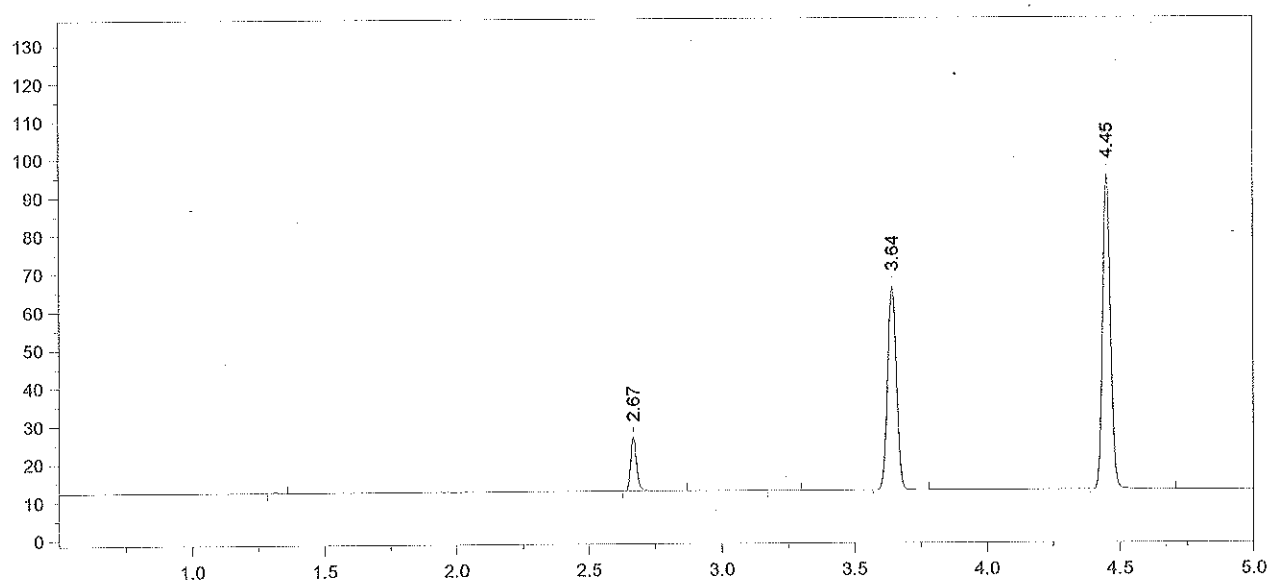
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	21573	0.0238	0.0194
3	3.64	t-Butanol	118985	1.0002	0.8163
4	4.45	n-Propanol	168137	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/12/2012 Today's Time = 12:15:27 AM
Bound File Name = SIM05112012.0042.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/12/2012 12:15:17 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

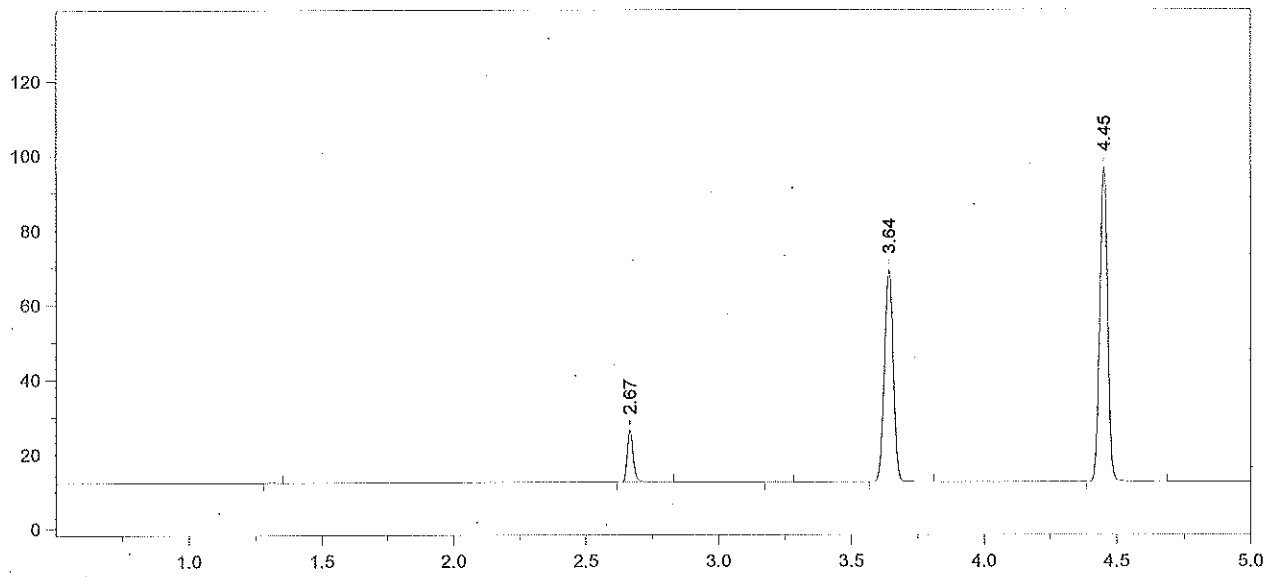
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22116	0.0233	0.0191
4	3.64	t-Butanol	129087	1.0376	0.8469
5	4.45	n-Propanol	175831	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/12/2012 Today's Time = 12:29:24 AM
Bound File Name = SIM05112012.0043.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/12/2012 12:29:17 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

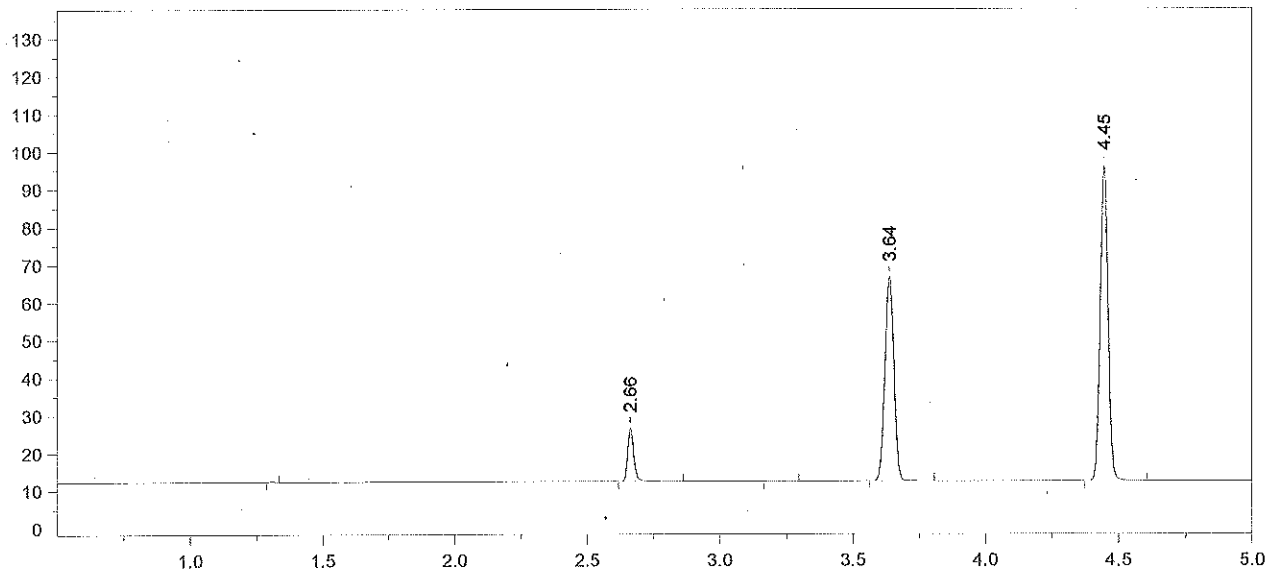
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	22624	0.0240	0.0196
4	3.64	t-Butanol	123041	0.9919	0.8096
5	4.45	n-Propanol	175310	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/12/2012 Today's Time = 12:45:10 AM
Bound File Name = SIM05112012.0044.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/12/2012 12:45:01 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

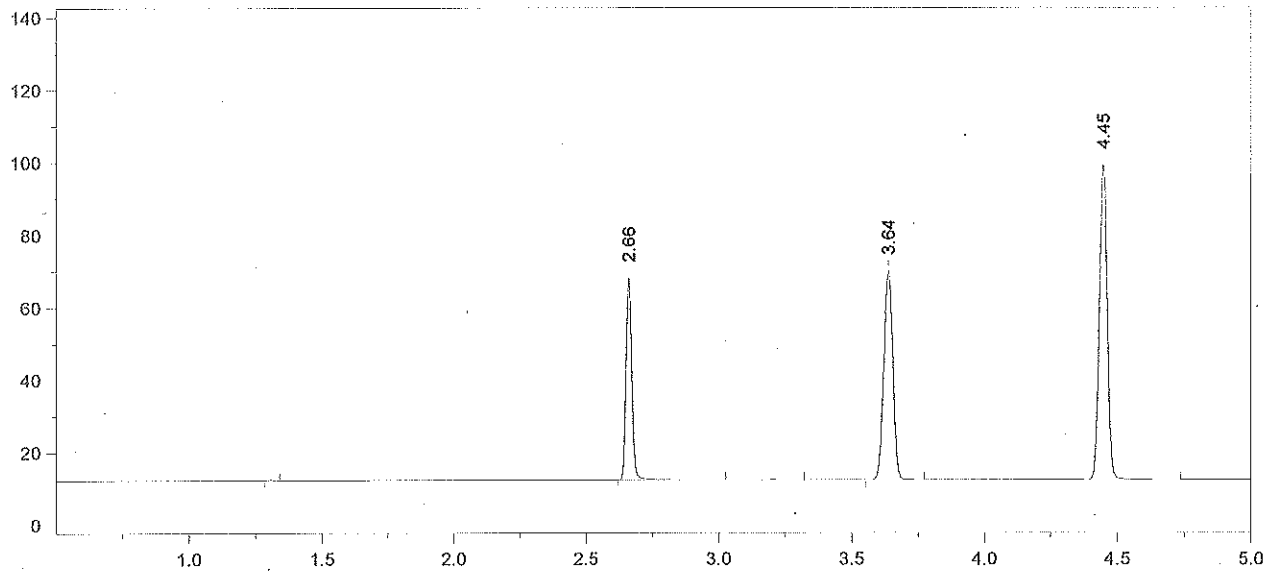
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	22280	0.0231	0.0189
4	3.64	t-Butanol	131361	1.0391	0.8481
5	4.45	n-Propanol	178677	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/12/2012 Today's Time = 1:00:43 AM
Bound File Name = SIM05112012.0045.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/12/2012 1:00:29 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

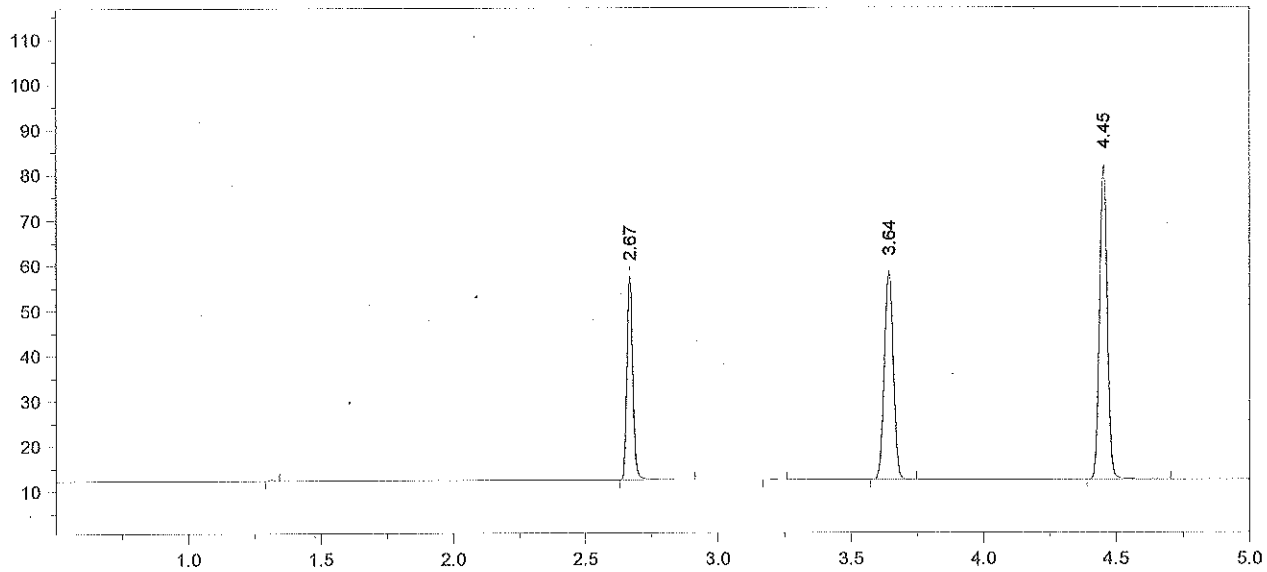
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22746	0.0239	0.0195
4	3.64	t-Butanol	124745	0.9967	0.8135
5	4.45	n-Propanol	176881	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/12/2012 Today's Time = 1:15:06 AM
Bound File Name = SIM05112012.0046.RAW
Sample Name = CCS
Date Taken = 5/12/2012 1:14:55 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	86265	0.0873	0.0713
4	3.64	t-Butanol	132706	1.0226	0.8347
5	4.45	n-Propanol	183405	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/12/2012 Today's Time = 1:30:29 AM
Bound File Name = SIM05112012.0047.RAW
Sample Name = CCS
Date Taken = 5/12/2012 1:30:16 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05112012.cal Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	69881	0.0877	0.0716
4	3.64	t-Butanol	106190	1.0147	0.8282
5	4.45	n-Propanol	147905	1.0000	0.8162

Headspace Alcohol Analysis Standards Coversheet

Analyst: AB Date: 5/14/12

Calibration Standards:

Lot ID: ES-05102012 Preparation Date: 05/10/2012 Expiration Date: 08/10/2012

	Standard A	Standard B	Standard C	Standard D	Standard E	Calibration Check
% Ethanol (w/v)	0.006	0.023	0.087	0.211	0.414	
Acceptance Range (± 10%)	0.007	0.025	0.096	0.232	0.455	
	0.005	0.021	0.078	0.190	0.372	

Control Sample:

Sample	Source	Lot number	Target Value	Acceptance Range	
Aqueous	Cerilliant	FN111711-01	0.100	0.110	0.090

Calibration and Control Sample Data:

Vial No.	Sample Identification		Result	In Range?	Comments
1	Blank		<0.005	(Y) N	
2	Compound Retention Times:			N/A	
		Acetaldehyde	1.92		
		Methanol	2.02		
		Ethanol	2.66		
		Acetone	3.07		
		Isopropanol	3.20		
		T- butanol	3.64		
		n-propanol	4.45		
3	Standard A		0.006	(Y) N	
4	Standard B		0.023	(Y) N	
5	Standard C		0.086	(Y) N	
6	Standard D		0.208	(Y) N	
7	Standard E		0.4158	(Y) N	
8	Aqueous QC		0.0967	(Y) N	
9	Aqueous QC		0.1001	(Y) N	$\bar{x}$ = 0.098 ✓

5/15/2012

File Name: C:\Methods\SimCal 05142012.cal
Version: 2

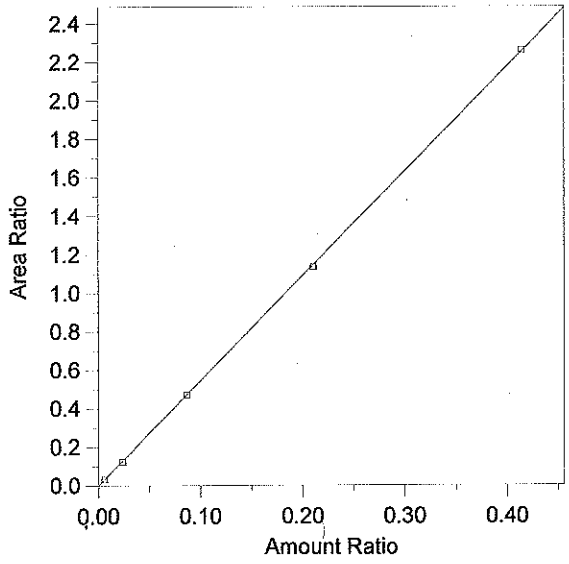
Creator:
Description:
Reason for change:

Internal standard calibration
No injection volume correction
No sample weight correction
Area reject threshold: 1000
Reference peak area reject threshold: 0
Amount units:
No default component

Method of calculating data point averages: Equal weight for all updates
No calibration update report

All levels are normal data points.

3 Ethanol



Expected retention time: 2.666 minutes
Search window: 0.1 minutes
Internal standard component: 7 (n-Propanol)
No retention time reference component
Group number: 0

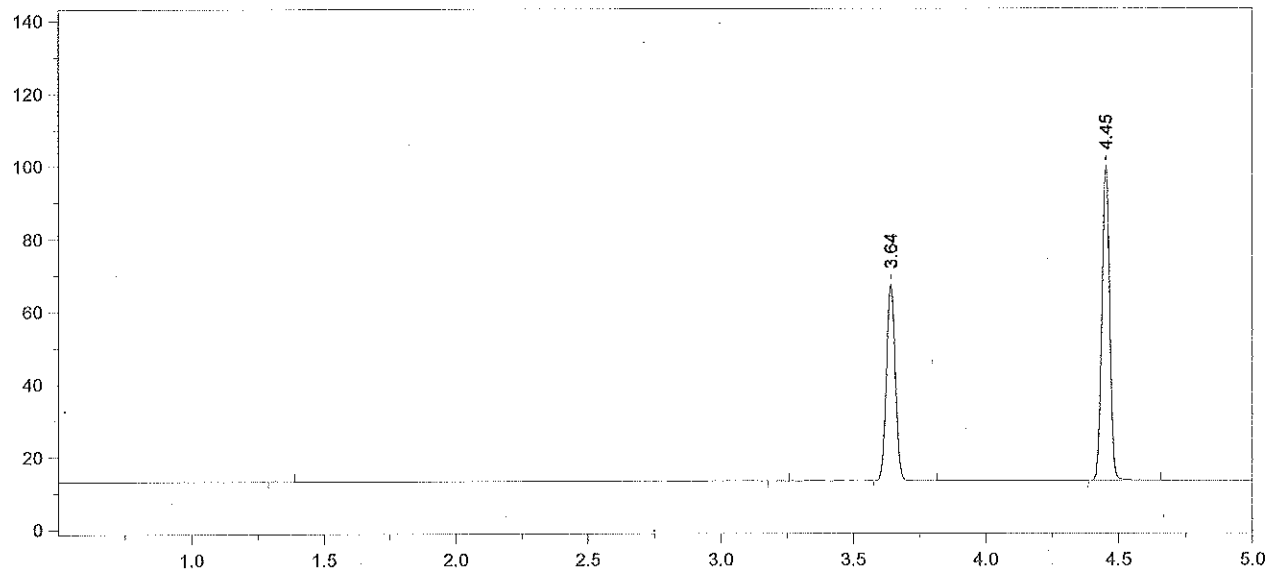
High alarm limit: 0
Low alarm limit: 0
Component constant: 0

Single peak quantification by area

$Y = 5.439771 X + 0$

Linear fit with equal weighting, forced to origin
Coefficient of determination: 0.999937
Average error: 1.388%
Average CF: 5.370843
RSD: 1.448%

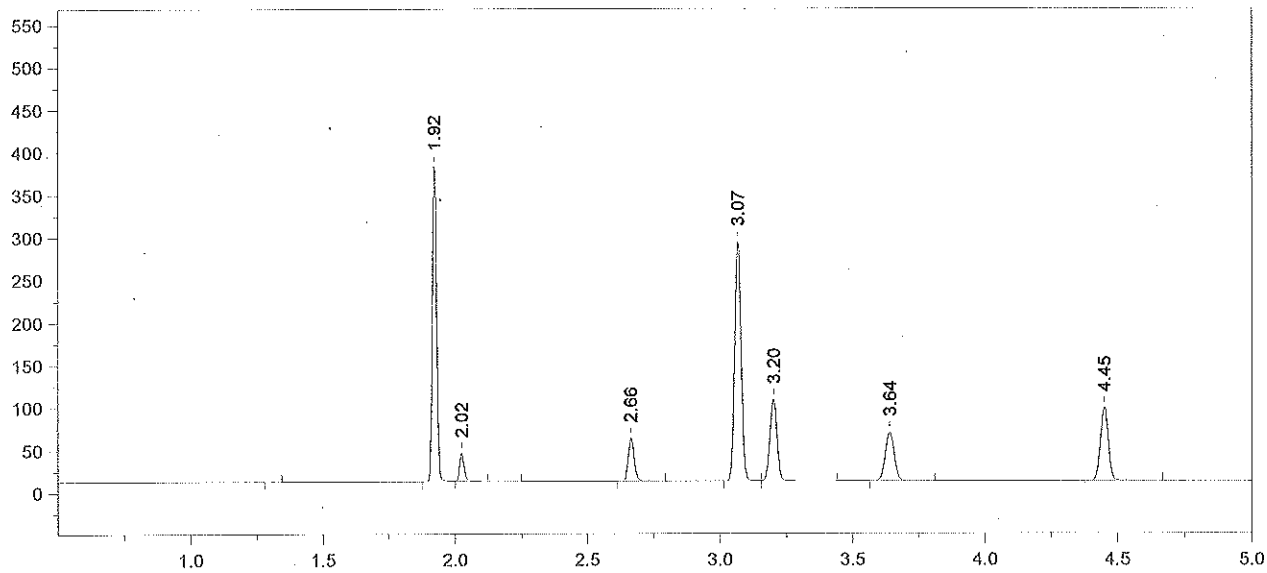
Level	Amount	Response	Cal Factor	Error, %	Amount Ratio	Response Ratio	Source	Date and time
1	(0.081)	(85146)	--	--	0.081	85146	Manual	5/11/2012 8:03:03 AM
2	0.0059	5623.333	953107.3	-1.685	0.0059	3.155391E-02	C:\Alcohol Data\SIM05142012\SIM05142012.0003.BND	5/14/2012 4:39:39 PM
3	0.0235	22455.65	955559.6	-3.461	0.0235	0.1234108	C:\Alcohol Data\SIM05142012\SIM05142012.0004.BND	5/14/2012 4:57:15 PM
4	0.0869	83414.02	959885.2	-0.445	0.0869	0.4706108	C:\Alcohol Data\SIM05142012\SIM05142012.0005.BND	5/14/2012 5:11:11 PM
5	0.2107	200580.3	951971	-1.046	0.2107	1.134167	C:\Alcohol Data\SIM05142012\SIM05142012.0006.BND	5/14/2012 5:28:37 PM
6	0.4144	401145.7	968015.6	0.302	0.4144	2.261039	C:\Alcohol Data\SIM05142012\SIM05142012.0007.BND	5/14/2012 5:41:49 PM



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:42:17 AM
Bound File Name = SIM05142012.0001.RAW
Sample Name = Blank
Date Taken = 5/14/2012 4:08:21 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

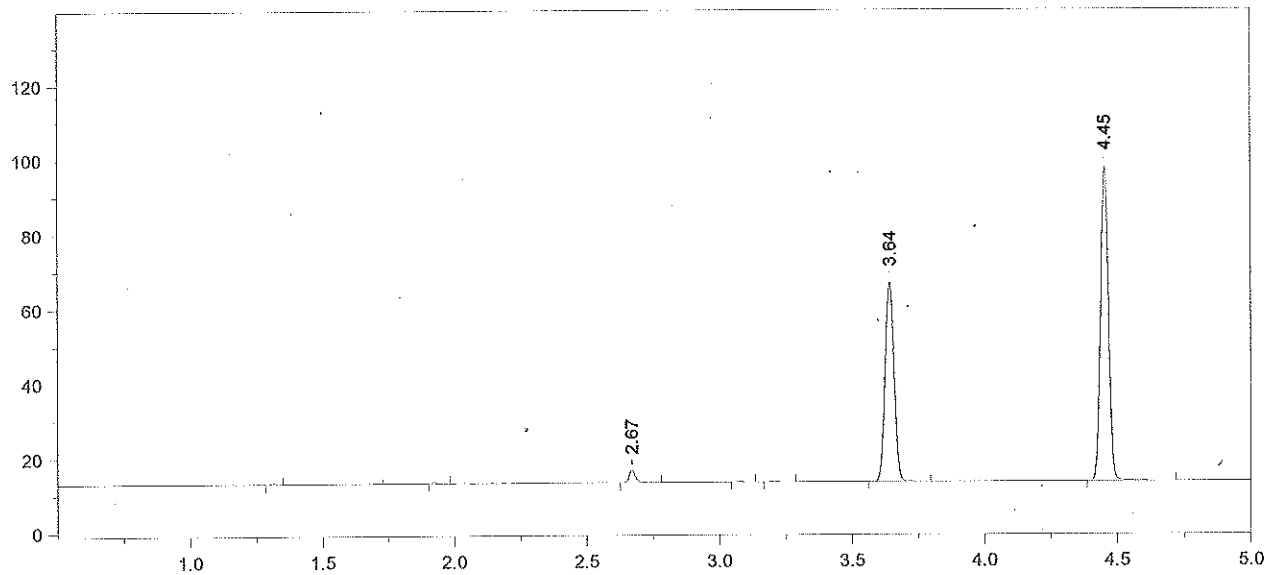
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	3.64	t-Butanol	124971	0.9544	0.7790
4	4.45	n-Propanol	184469	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:42:26 AM
Bound File Name = SIM05142012.0002.RAW
Sample Name = TMX
Date Taken = 5/14/2012 4:25:40 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

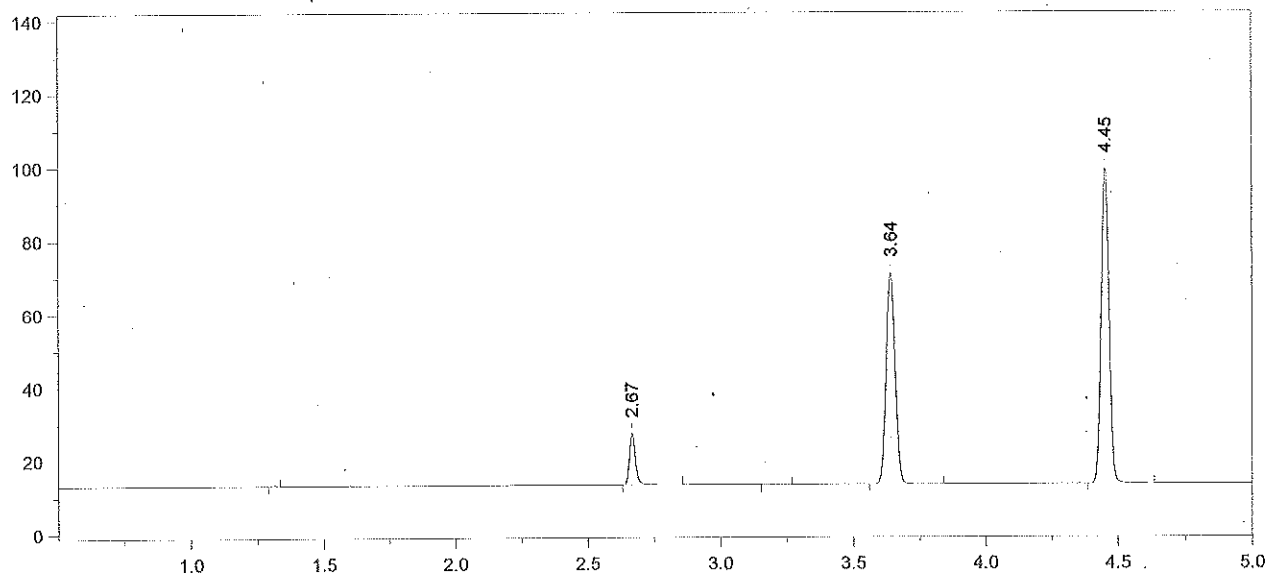
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	1.92	Acetaldehyde	429101	0.0900	0.0735
3	2.02	Methanol	40101	0.0920	0.0751
4	2.66	Ethanol	77500	0.0786	0.0642
5	3.07	Acetone	474248	0.0920	0.0751
6	3.20	Isopropanol	179140	0.1230	0.1004
7	3.64	t-Butanol	131076	1.0189	0.8316
8	4.45	n-Propanol	181245	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012
Today's Time = 7:42:34 AM
Bound File Name = SIM05142012.0003.RAW
Sample Name = STD A
Date Taken = 5/14/2012 4:39:28 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal
Calibration Version = 2

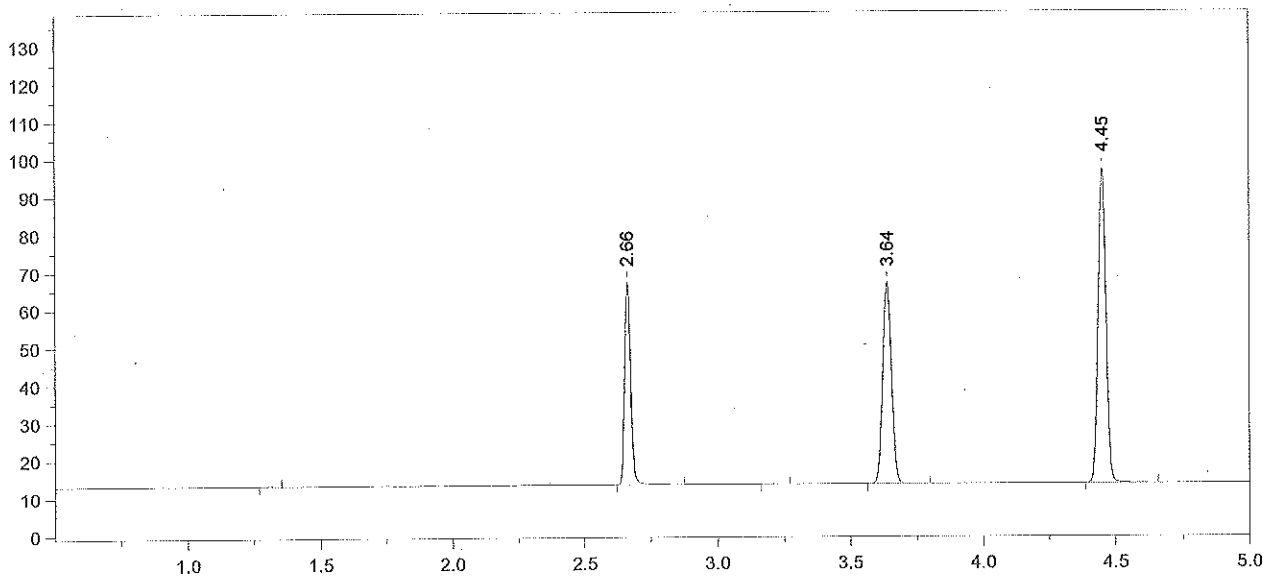
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.67	Ethanol	05623	0.0058	0.0047
6	3.64	t-Butanol	123553	0.9767	0.7972
7	4.45	n-Propanol	178214	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012
Today's Time = 7:42:44 AM
Bound File Name = SIM05142012.0004.RAW
Sample Name = STD B
Date Taken = 5/14/2012 4:57:04 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal
Calibration Version = 2

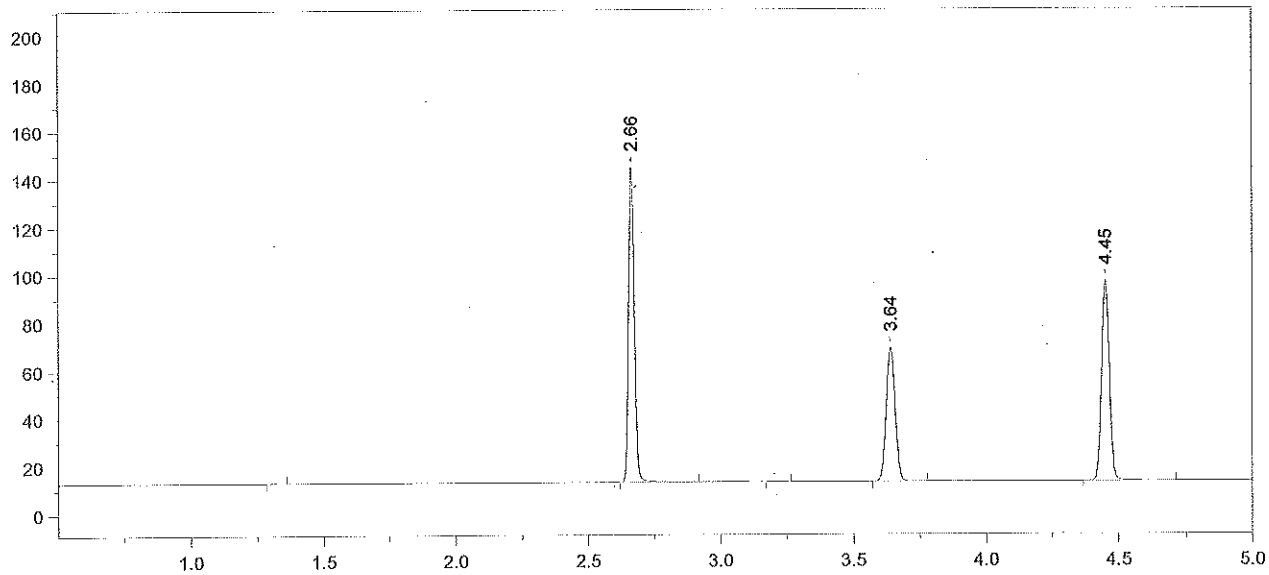
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	22456	0.0227	0.0185
4	3.64	t-Butanol	132952	1.0294	0.8402
5	4.45	n-Propanol	181959	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012
Today's Time = 7:42:55 AM
Bound File Name = SIM05142012.0005.RAW
Sample Name = STD C
Date Taken = 5/14/2012 5:10:57 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal
Calibration Version = 2

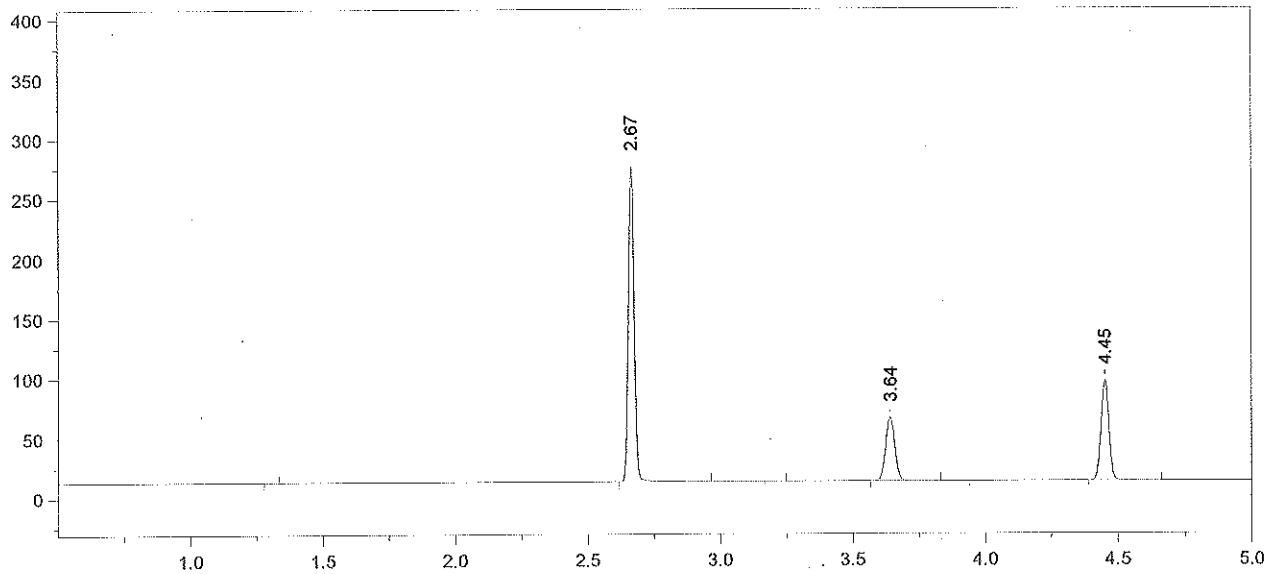
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	83414	0.0865	0.0706
4	3.64	t-Butanol	123458	0.9813	0.8009
5	4.45	n-Propanol	177246	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:43:06 AM
Bound File Name = SIM05142012.0006.RAW
Sample Name = STD D
Date Taken = 5/14/2012 5:28:26 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

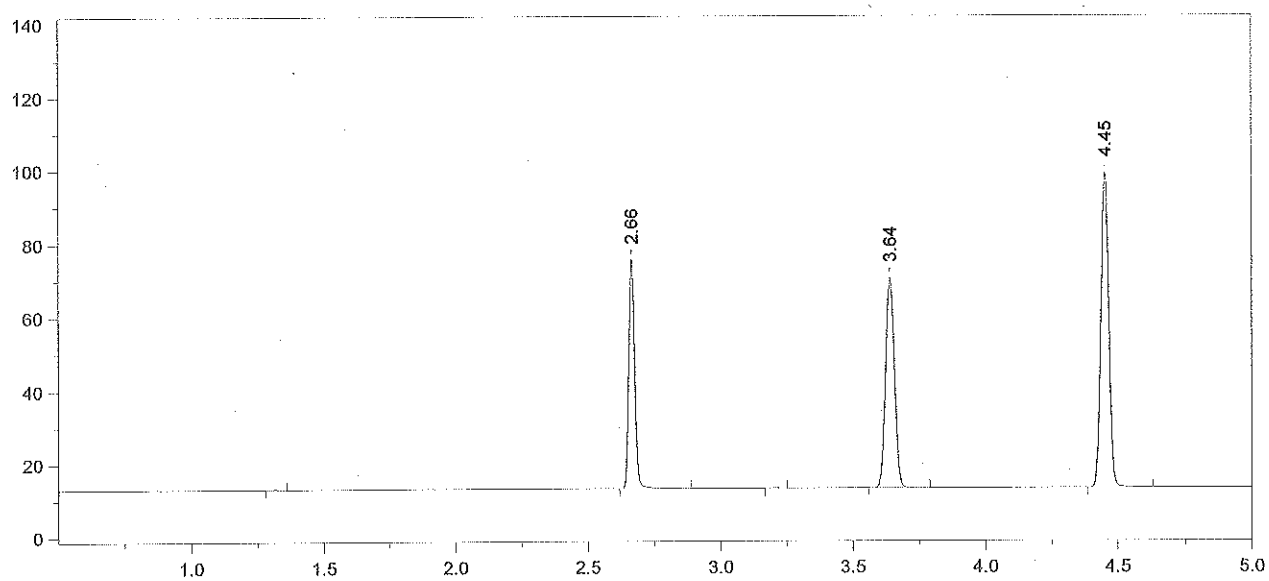
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	200580	0.2085	0.1702
4	3.64	t-Butanol	128407	1.0229	0.8349
5	4.45	n-Propanol	176853	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:43:16 AM
Bound File Name = SIM05142012.0007.RAW
Sample Name = STD E
Date Taken = 5/14/2012 5:41:42 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

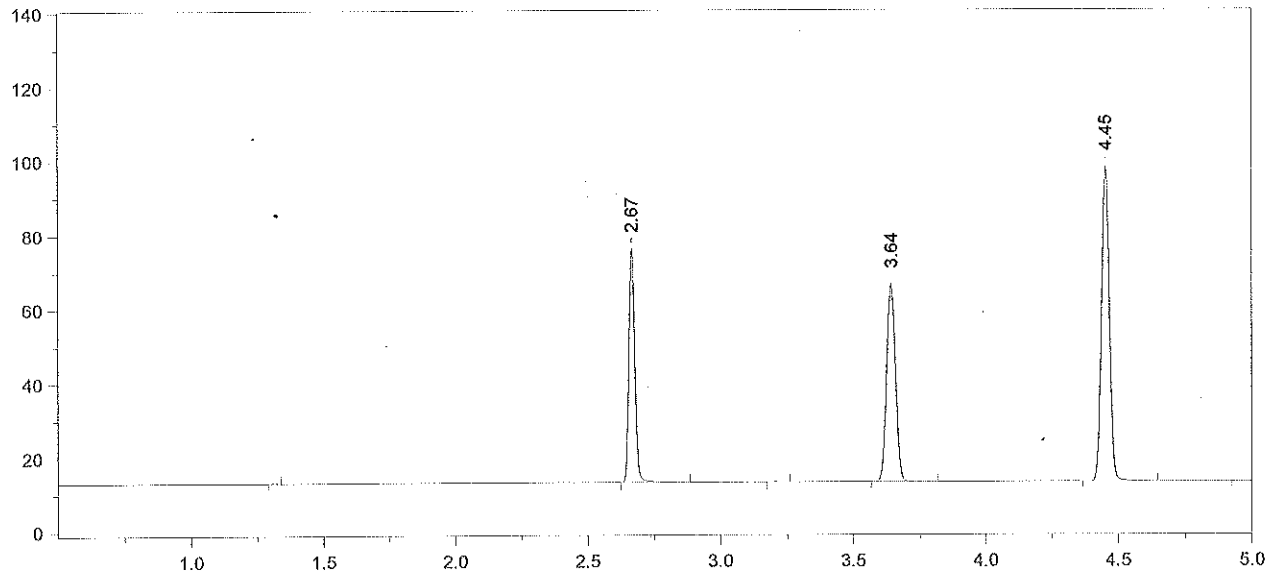
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	401146	0.4156	0.3393
4	3.64	t-Butanol	122249	0.9708	0.7923
5	4.45	n-Propanol	177417	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:43:26 AM
Bound File Name = SIM05142012.0008.RAW
Sample Name = AQ QC
Date Taken = 5/14/2012 5:59:50 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

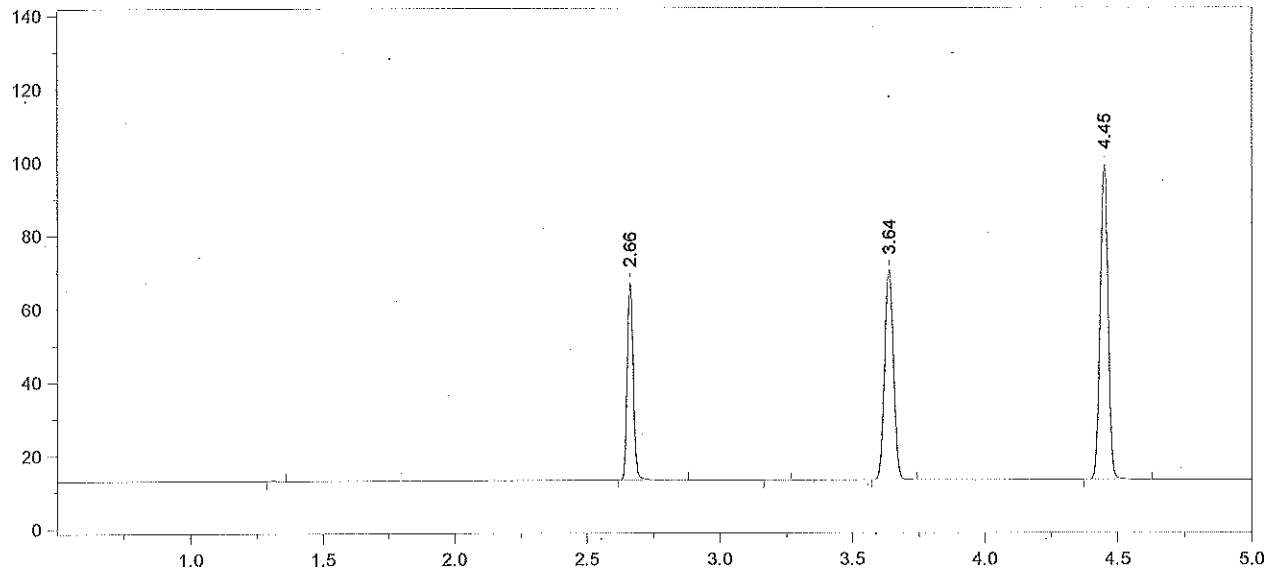
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	95667	0.0967	0.0790
4	3.64	t-Butanol	132103	1.0238	0.8356
5	4.45	n-Propanol	181793	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:43:37 AM
Bound File Name = SIM05142012.0009.RAW
Sample Name = AQ QC
Date Taken = 5/14/2012 6:13:43 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

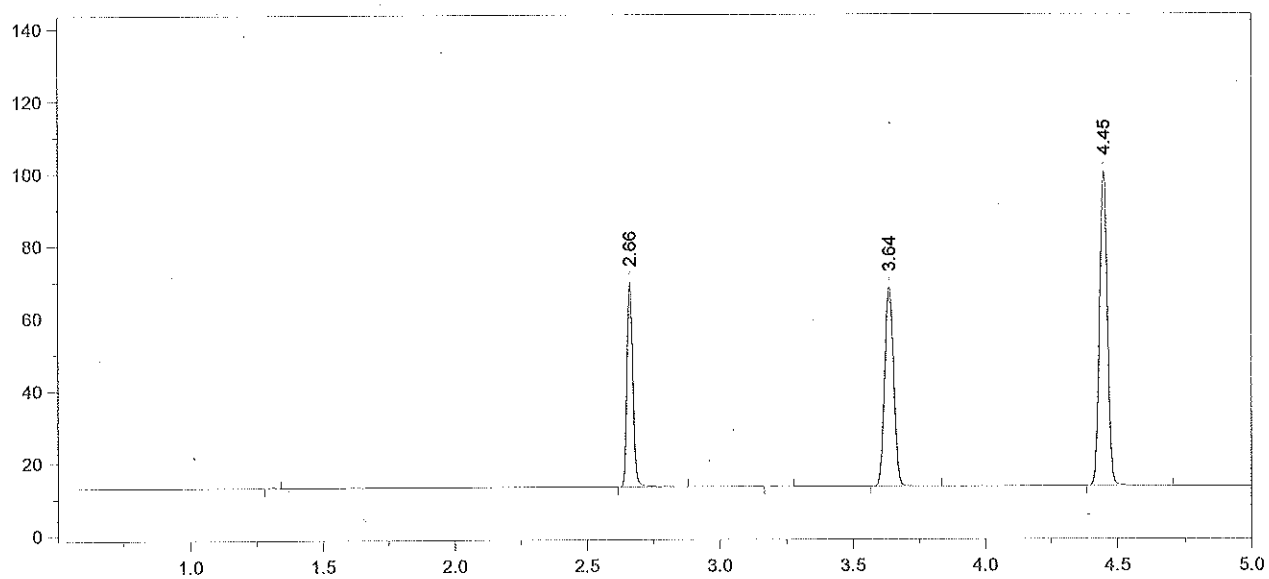
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	97717	0.1001	0.0817
4	3.64	t-Butanol	123294	0.9678	0.7899
5	4.45	n-Propanol	179482	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:43:48 AM
Bound File Name = SIM05142012.0028.RAW
Sample Name = CCS
Date Taken = 5/14/2012 11:10:46 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

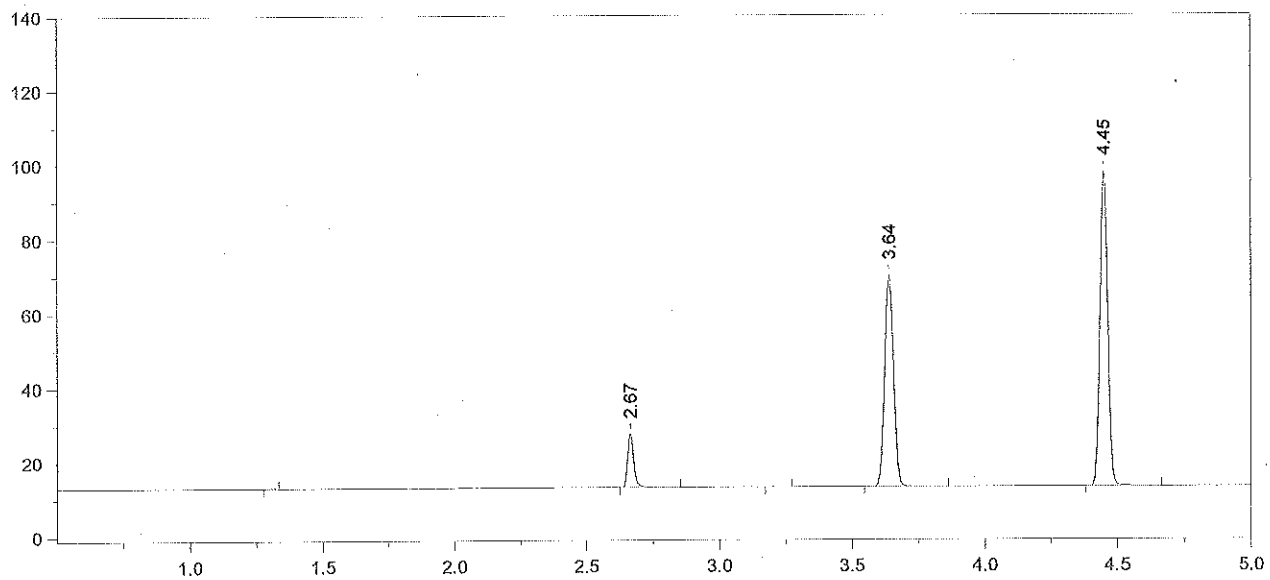
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	83943	0.0848	0.0692
4	3.64	t-Butanol	132158	1.0232	0.8351
5	4.45	n-Propanol	181975	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:43:58 AM
Bound File Name = SIM05142012.0029.RAW
Sample Name = CCS
Date Taken = 5/14/2012 11:24:34 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

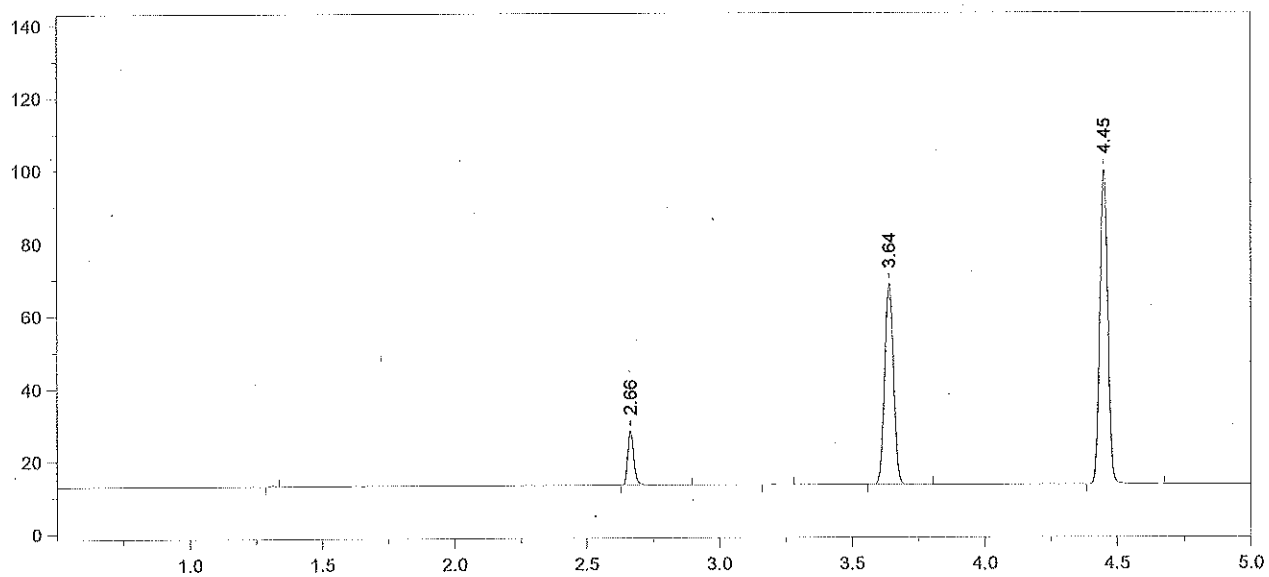
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	87548	0.0869	0.0709
4	3.64	t-Butanol	127231	0.9677	0.7899
5	4.45	n-Propanol	185224	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:39:11 AM
Bound File Name = SIM05142012.0030.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/14/2012 11:42:13 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

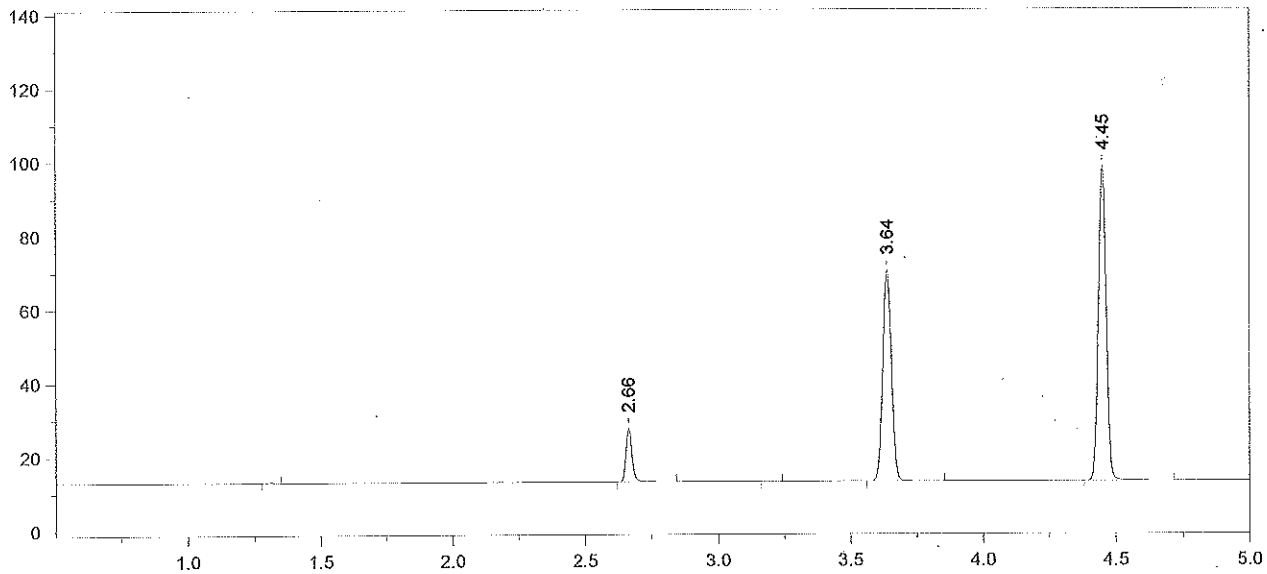
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	23047	0.0236	0.0193
4	3.64	t-Butanol	131147	1.0290	0.8399
5	4.45	n-Propanol	179554	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:39:21 AM
Bound File Name = SIM05142012.0031.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/14/2012 11:55:53 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

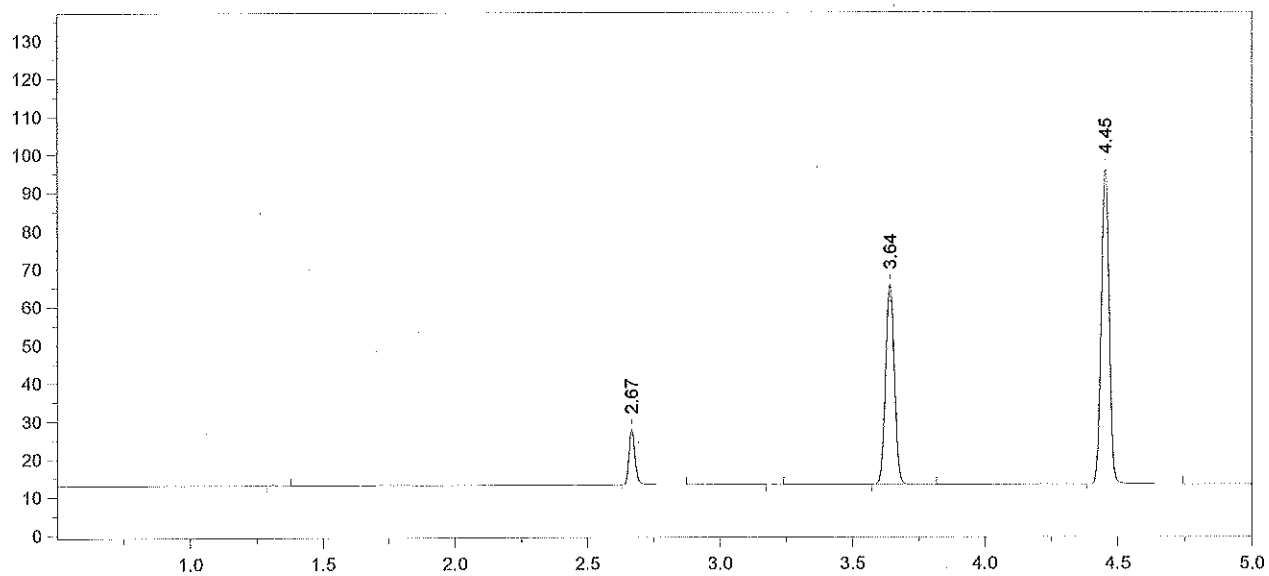
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	24116	0.0242	0.0198
4	3.64	t-Butanol	127475	0.9816	0.8012
5	4.45	n-Propanol	182955	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012
Today's Time = 7:39:31 AM
Bound File Name = SIM05142012.0032.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/15/2012 12:13:39 AM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal
Calibration Version = 2

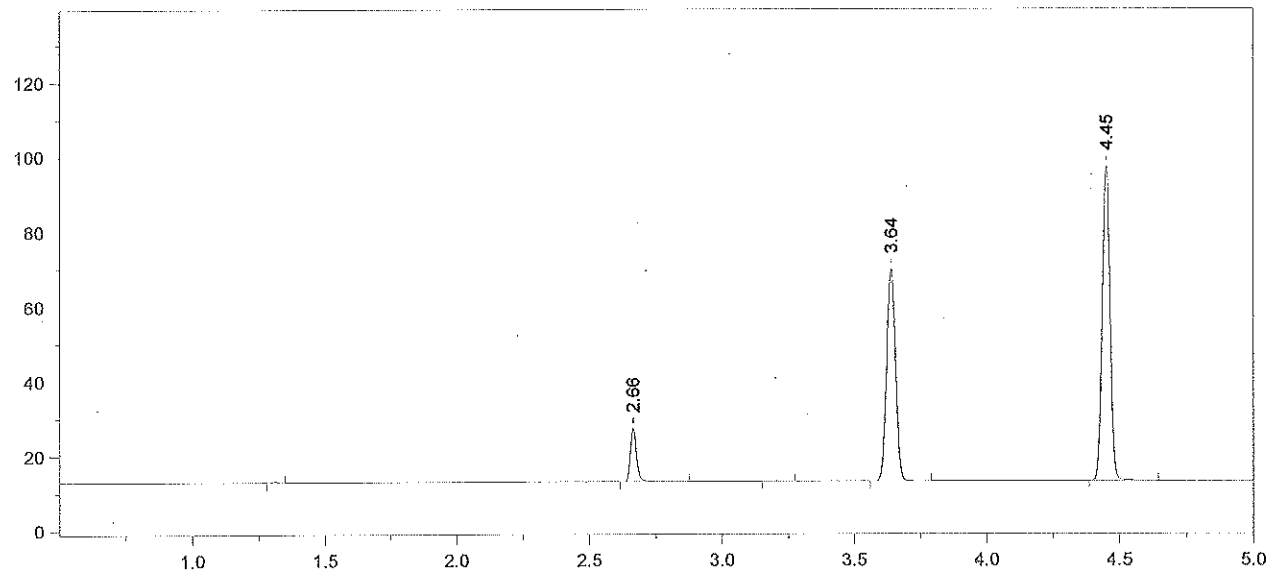
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	23077	0.0235	0.0192
4	3.64	t-Butanol	132126	1.0301	0.8408
5	4.45	n-Propanol	180699	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:39:41 AM
Bound File Name = SIM05142012.0033.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/15/2012 12:27:17 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

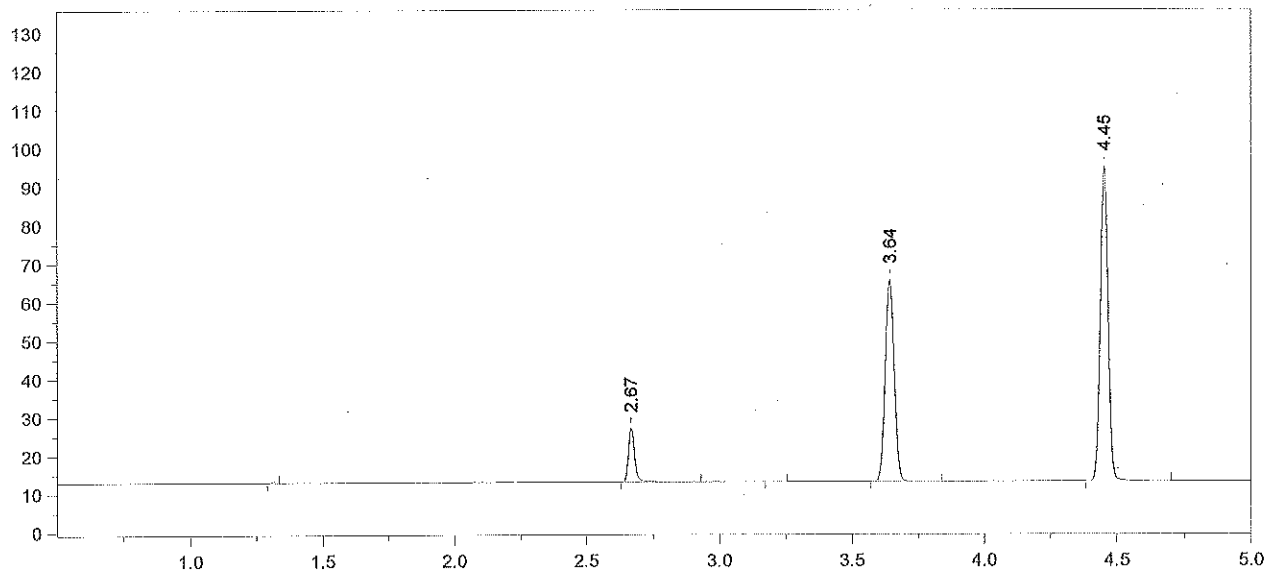
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	23088	0.0242	0.0197
4	3.64	t-Butanol	121554	0.9746	0.7954
5	4.45	n-Propanol	175722	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012
Today's Time = 7:39:51 AM
Bound File Name = SIM05142012.0034.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/15/2012 12:45:04 AM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal
Calibration Version = 2

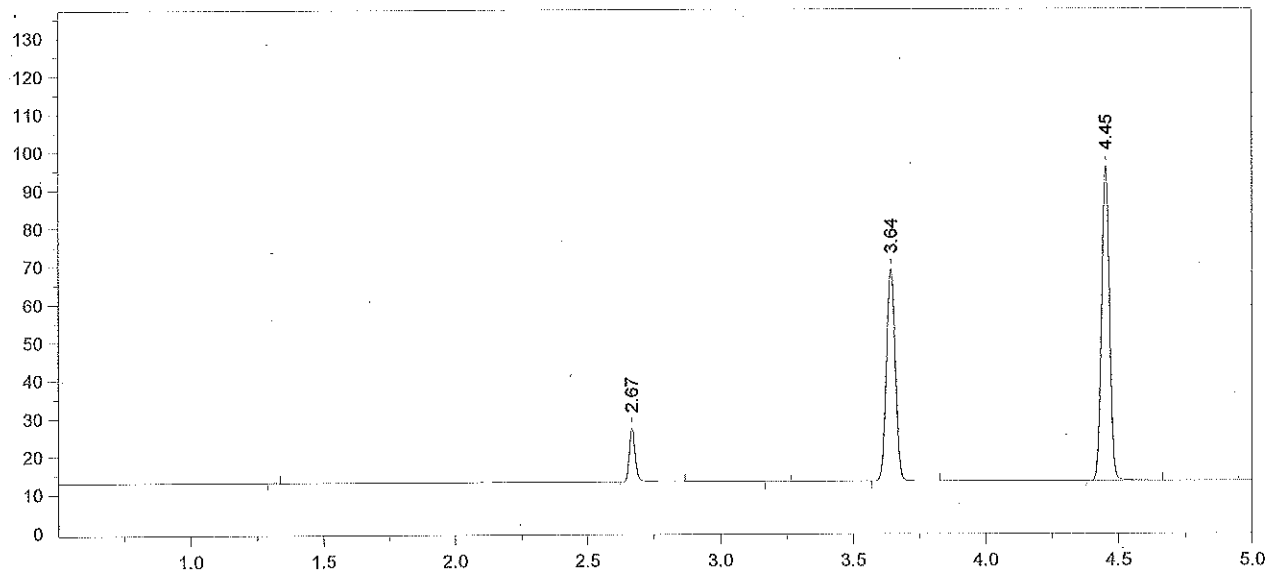
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22792	0.0235	0.0192
4	3.64	t-Butanol	130628	1.0331	0.8433
5	4.45	n-Propanol	178131	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:40:01 AM
Bound File Name = SIM05142012.0035.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/15/2012 12:58:52 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

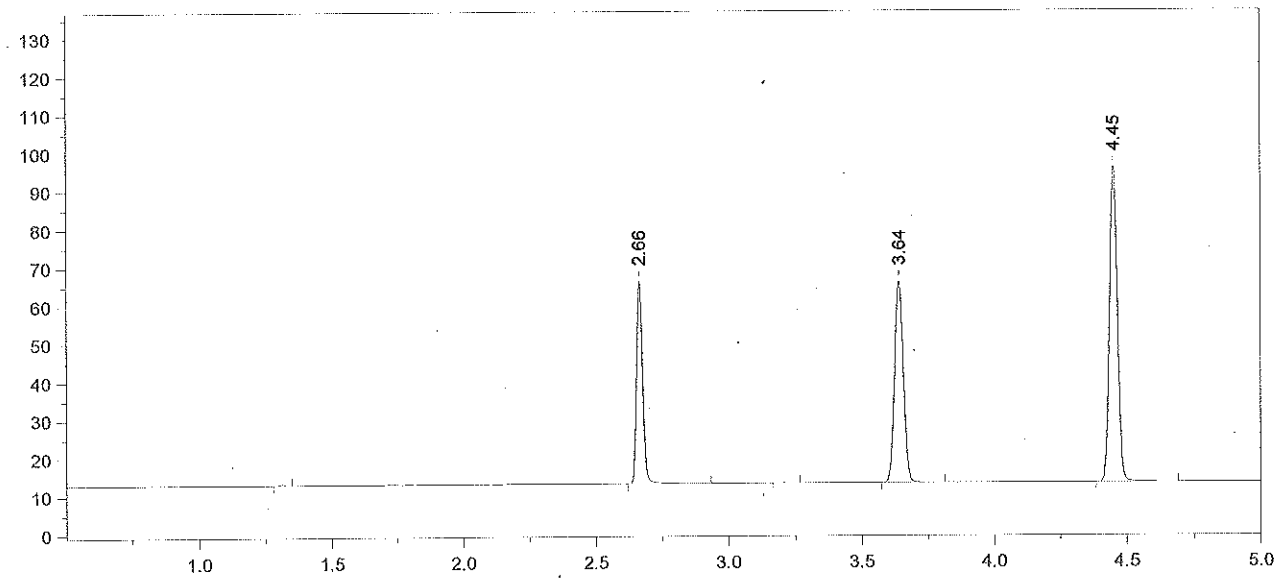
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	22745	0.0243	0.0198
4	3.64	t-Butanol	121020	0.9908	0.8087
5	4.45	n-Propanol	172078	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:40:11 AM
Bound File Name = SIM05142012.0036.RAW
Sample Name = 0.02 Cert TLC
Date Taken = 5/15/2012 1:16:28 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

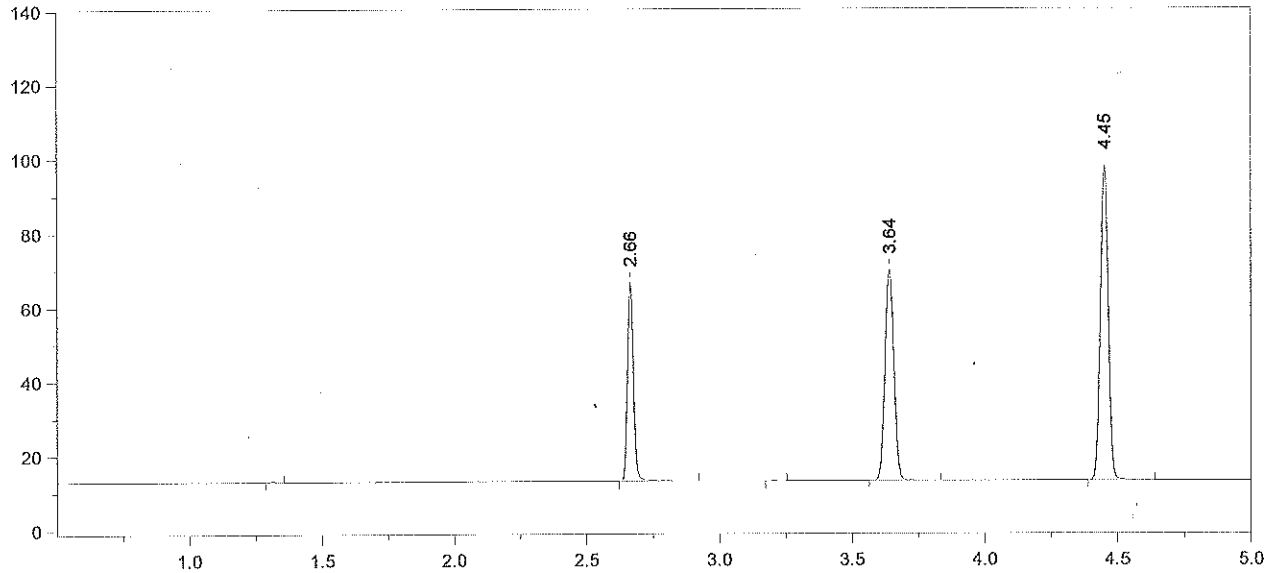
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	22280	0.0233	0.0191
4	3.64	t-Butanol	128960	1.0357	0.8453
5	4.45	n-Propanol	175425	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:40:22 AM
Bound File Name = SIM05142012.0037.RAW
Sample Name = CCS
Date Taken = 5/15/2012 1:30:11 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

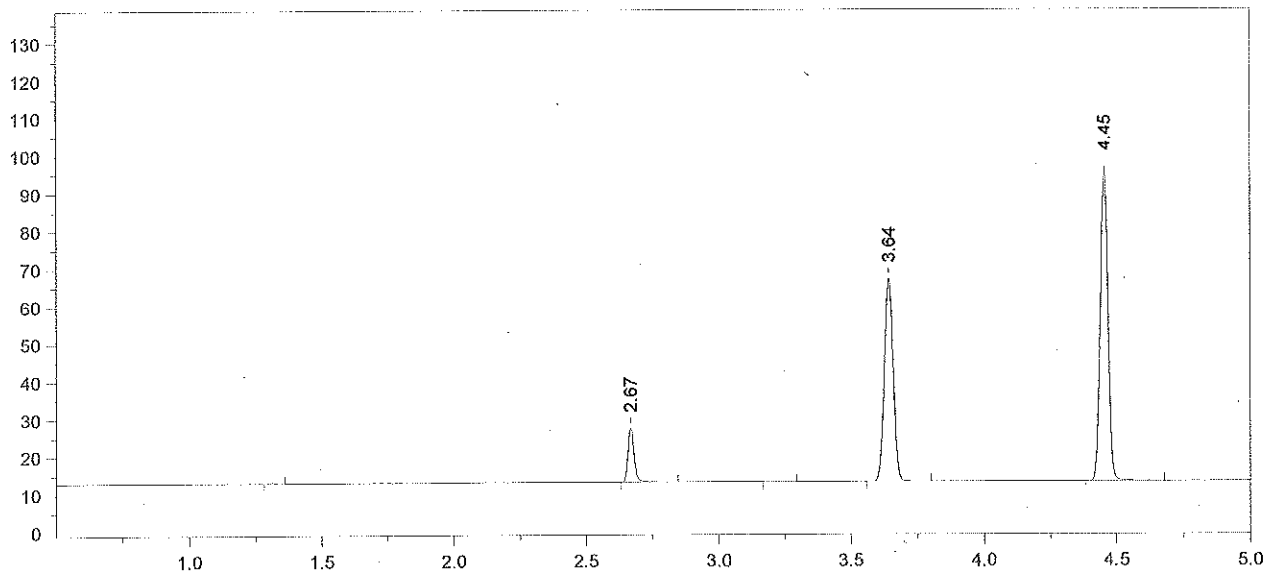
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	82510	0.0865	0.0706
4	3.64	t-Butanol	122342	0.9834	0.8027
5	4.45	n-Propanol	175268	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:40:32 AM
Bound File Name = SIM05142012.0038.RAW
Sample Name = CCS
Date Taken = 5/15/2012 1:47:53 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

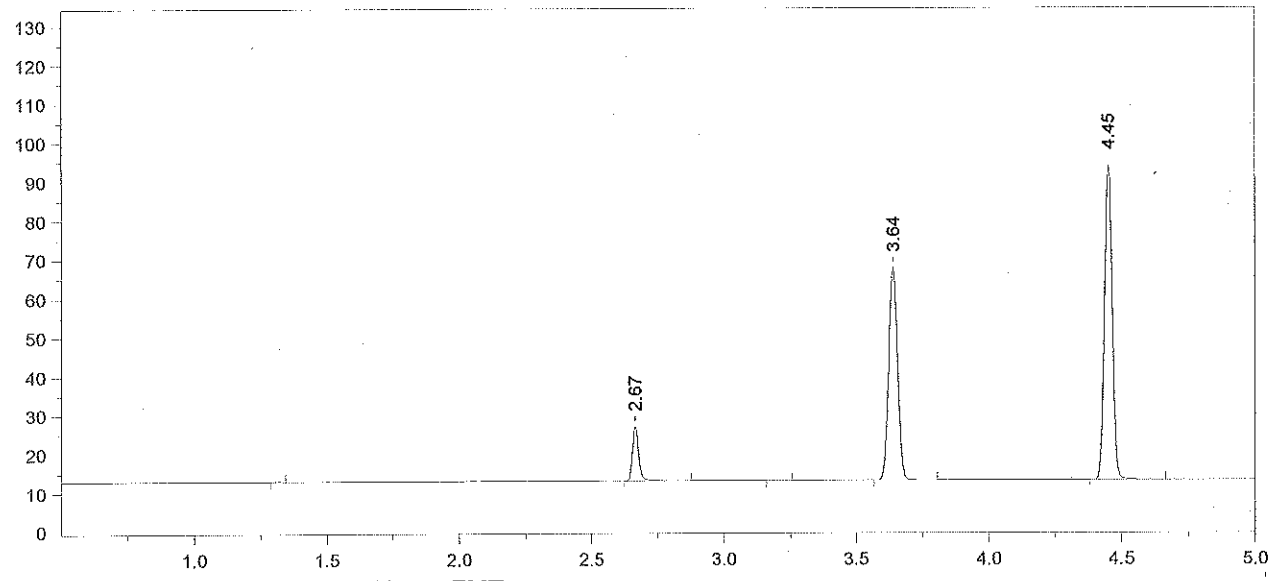
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	82920	0.0851	0.0695
4	3.64	t-Butanol	131166	1.0319	0.8422
5	4.45	n-Propanol	179083	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:40:42 AM
Bound File Name = SIM05142012.0039.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/15/2012 2:01:45 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

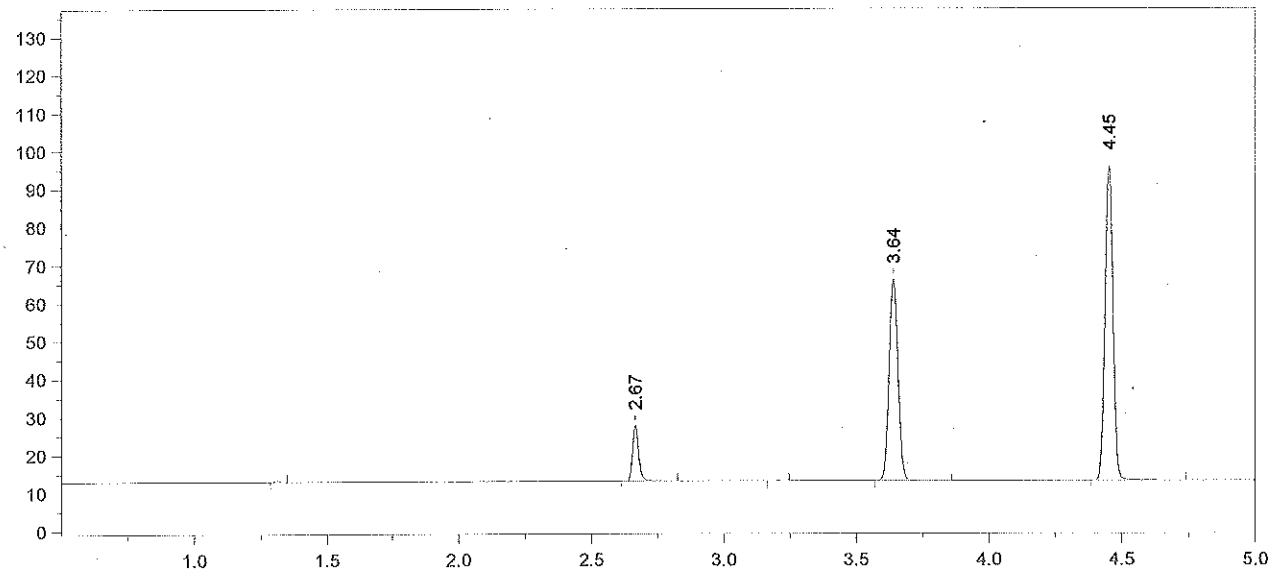
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	23060	0.0240	0.0196
4	3.64	t-Butanol	124270	0.9911	0.8090
5	4.45	n-Propanol	176640	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:40:52 AM
Bound File Name = SIM05142012.0040.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/15/2012 2:19:22 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

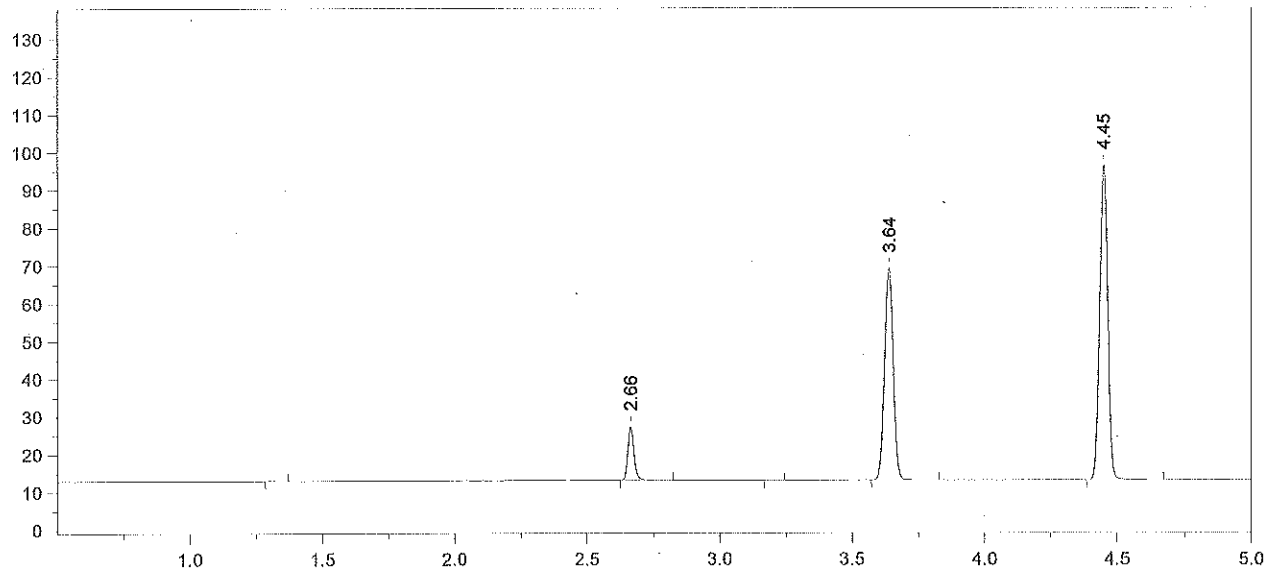
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	22332	0.0239	0.0195
4	3.64	t-Butanol	125945	1.0318	0.8421
5	4.45	n-Propanol	171974	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:41:03 AM
Bound File Name = SIM05142012.0041.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/15/2012 2:33:05 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

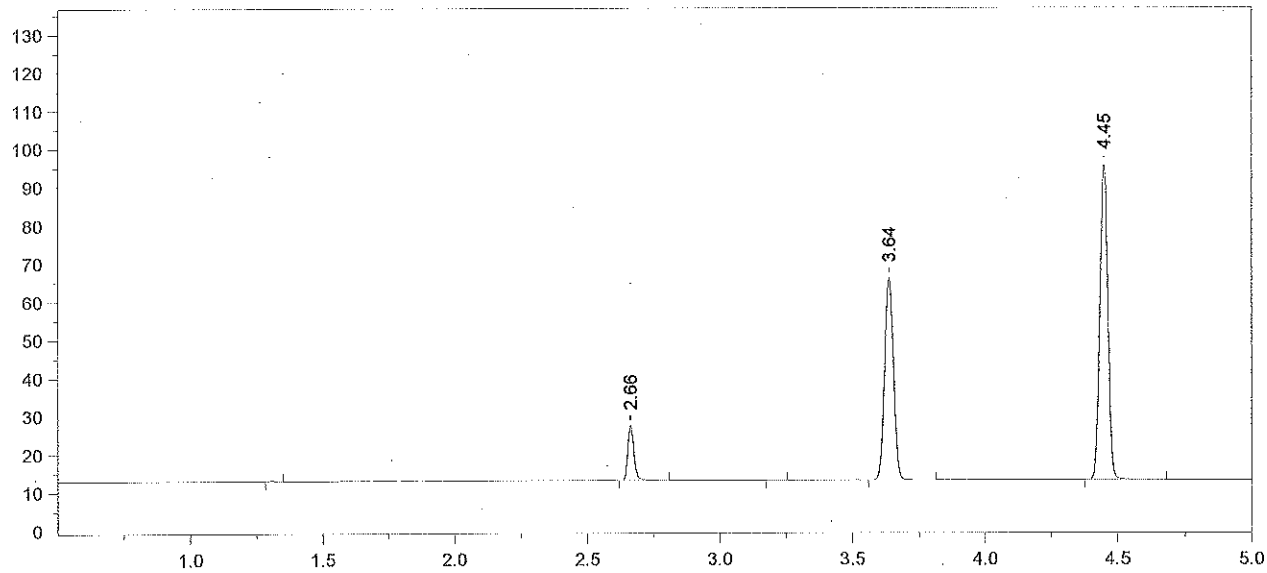
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	23250	0.0242	0.0198
4	3.64	t-Butanol	122969	0.9826	0.8020
5	4.45	n-Propanol	176312	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:41:13 AM
Bound File Name = SIM05142012.0042.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/15/2012 2:50:49 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

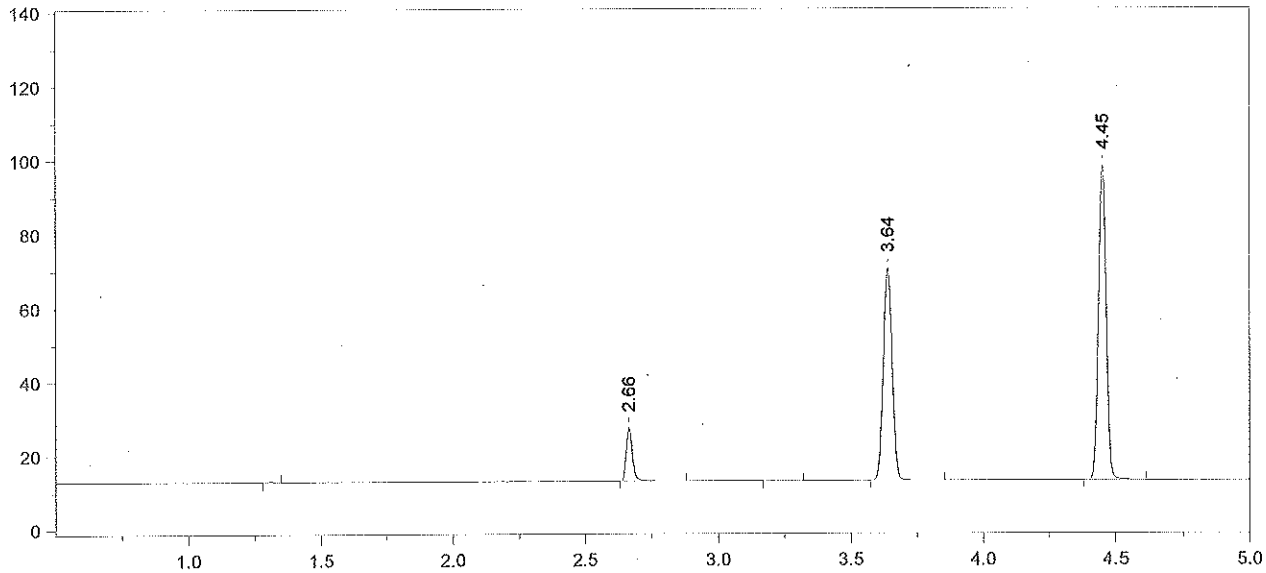
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22639	0.0235	0.0192
4	3.64	t-Butanol	129731	1.0338	0.8438
5	4.45	n-Propanol	176794	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:41:23 AM
Bound File Name = SIM05142012.0043.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/15/2012 3:03:59 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

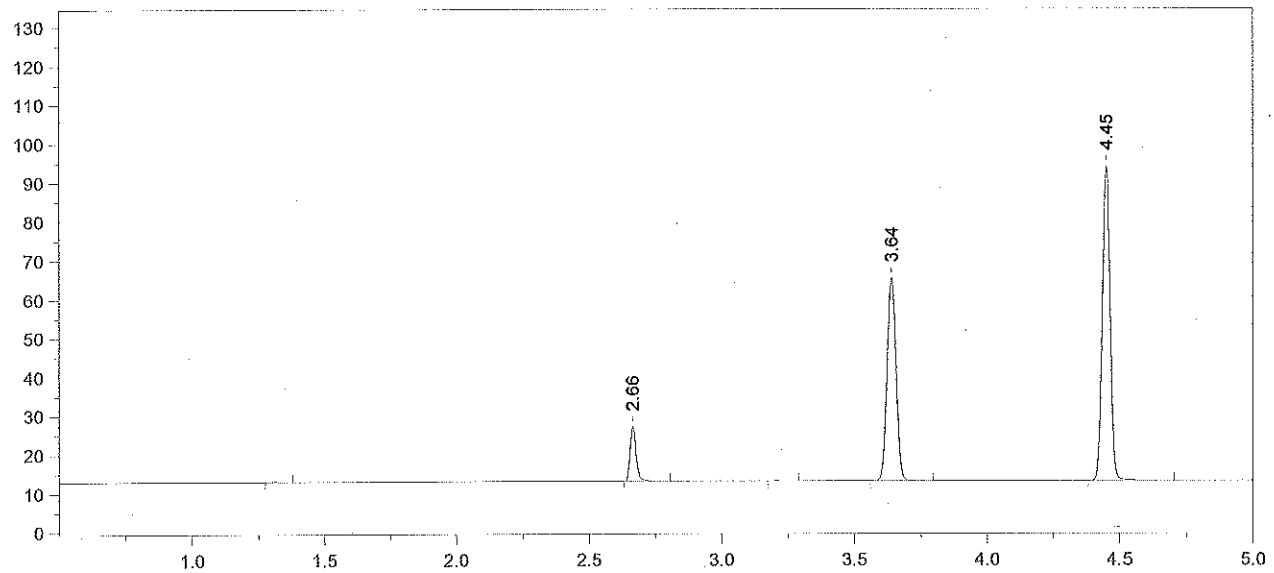
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22960	0.0242	0.0197
4	3.64	t-Butanol	122157	0.9860	0.8048
5	4.45	n-Propanol	174544	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:41:34 AM
Bound File Name = SIM05142012.0044.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/15/2012 3:22:16 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

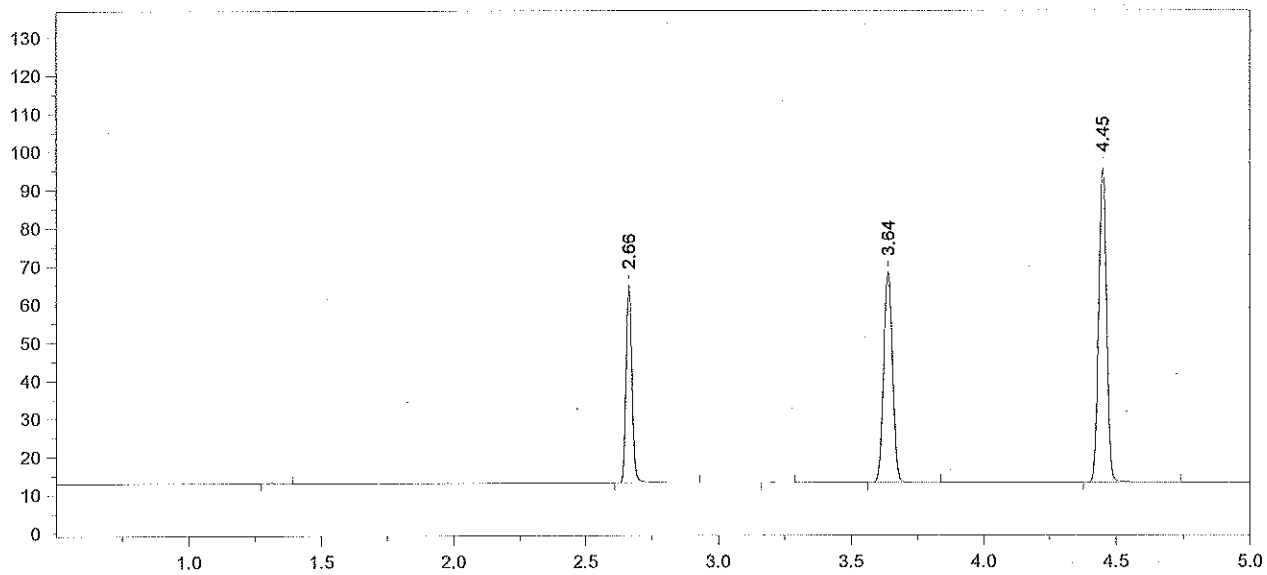
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	23217	0.0237	0.0194
4	3.64	t-Butanol	132453	1.0377	0.8470
5	4.45	n-Propanol	179819	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:41:44 AM
Bound File Name = SIM05142012.0045.RAW
Sample Name = 0.02 Cert ALB
Date Taken = 5/15/2012 3:36:04 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

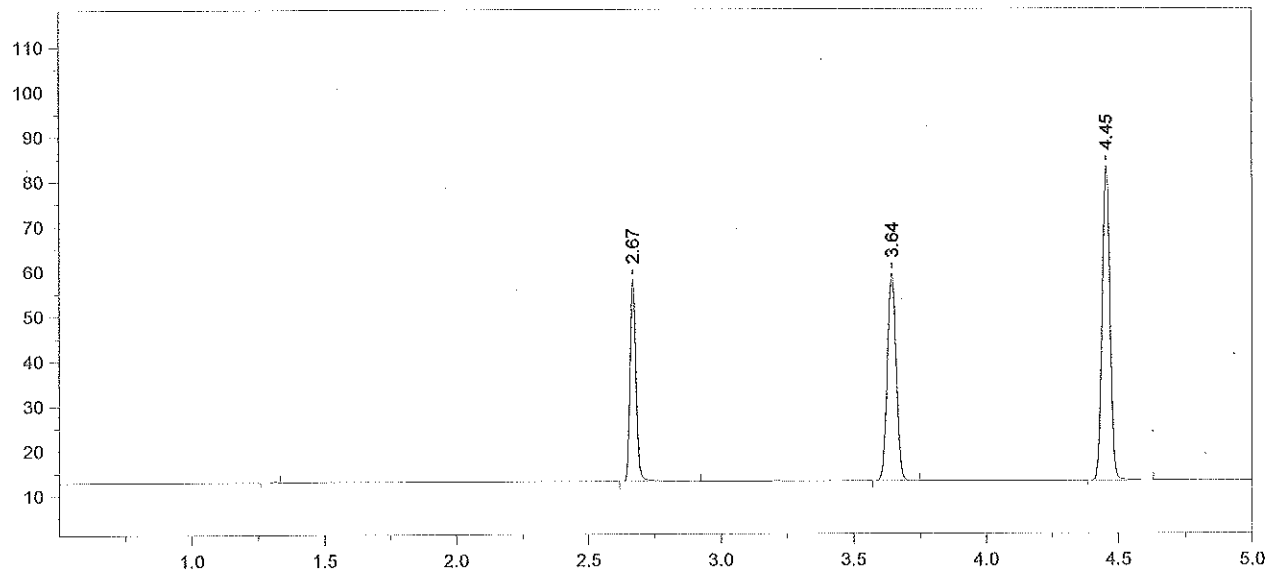
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	22400	0.0241	0.0197
4	3.64	t-Butanol	120318	0.9923	0.8099
5	4.45	n-Propanol	170832	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:41:54 AM
Bound File Name = SIM05142012.0046.RAW
Sample Name = CCS
Date Taken = 5/15/2012 3:53:43 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	80792	0.0848	0.0692
4	3.64	t-Butanol	128103	1.0299	0.8406
5	4.45	n-Propanol	175230	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/15/2012 Today's Time = 7:42:05 AM
Bound File Name = SIM05142012.0047.RAW
Sample Name = CCS
Date Taken = 5/15/2012 4:06:55 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05142012.cal Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	69564	0.0860	0.0702
3	3.64	t-Butanol	106619	1.0099	0.8243
4	4.45	n-Propanol	148730	1.0000	0.8162