VERMONT FORENSIC LABORATORY

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Certificate of Analysis of DataMaster External Standard Solution

On 4/27/2012, an ethanol solution was prepared by Amanda Bolduc for use as a DataMaster External Standard solution. The solution was prepared per standard laboratory practice and assigned the lot number 12-73-100 and an expiration date of 4/27/2013.

On 4/30/2012 and 5/1/2012, the solution was analyzed against calibration SimCal04302012 and SimCal05012012. 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 0.098 g/210L simulated breath ethanol concentration and approved for use as a DataMaster External Standard solution.

Dated at Waterbury, Vermont on Thursday, May 03, 2012.

Amanda Bolduc

0.1 Ext Std Solution 20L
Lot # 12-73-100
Prepared 04/27/2012 by ALB
Exp 04/27/2013

TLC CAL SimCal 04302012
ALB/TLC Vials
Analyzed on 4/30/2012

0.0967 tlc
0.1000
0.0977
0.0994
0.0972
0.0993
0.0982
0.1008 alb
0.0971
0.1012
0.0984
0.1004
0.0982
0.1018

Ave. = 0.0990
Std Dev. = 0.0016
Range = 0.0967 - 0.1018

ALB CAL SimCal 05012012
ALB/TLC Vials
Analyzed on 5/1/2012

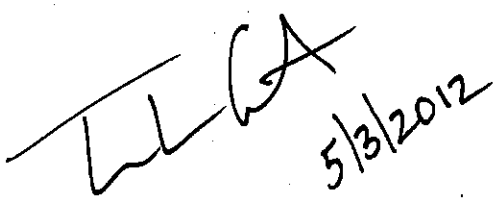
0.0965 tlc
0.0979
0.0956
0.0965
0.0950
0.0970
0.0946
0.0999 alb
0.0985
0.1009
0.0995
0.1005
0.0988
0.1011

Ave. = 0.0980
Std Dev. = 0.0022
Range = 0.0946 - 0.1011

Total Values from Both Runs

Average	Mean
0.0967	0.0946
0.1000	0.0950
0.0977	0.0956
0.0994	0.0965
0.0972	
0.0993	0.0967
0.0982	0.0970
0.1008	0.0971
0.0971	0.0972
0.1012	0.0977
0.0984	0.0979
0.1004	0.0982
0.0982	
0.1018	0.0984
0.0965	0.0985
0.0979	0.0988
0.0956	0.0993
0.0965	0.0994
0.0950	0.0995
0.0970	0.0999
0.0946	0.1000
0.0999	0.1004
0.0985	0.1005
0.1009	0.1008
0.0995	0.1009
0.1005	0.1011
0.0988	0.1012
0.1011	0.1018

Ave. =	0.0985
Std Dev. =	0.0020
Range =	0.0946 - 0.1018
Mean =	0.0986
Mean Std Dev. =	0.0020
RPD (Mean to Ave.)=	0.10%



Headspace Alcohol Analysis Standards Coversheet

Analyst: TLC Date: 4/30/12

Calibration Standards:

Lot ID: ES-03052012 Preparation Date: 03/05/2012* Expiration Date: 06/05/2012

*Standard E was re-prepared on 3/7/2012

	Standard A	Standard B	Standard C	Standard D	Standard E	Calibration Check
% Ethanol (w/v)	0.0055	0.022	0.082	0.202	0.409	
Acceptance Range (± 10%)	0.006	0.024	0.090	0.222	0.450	
	0.0049	0.020	0.074	0.182	0.368	

Control Sample:

Sample	Source	Lot number	Target Value	Acceptance Range	
~~Whole Blood~~ AQ	~~Cliniqa~~ Cerilliant	~~091120A~~ FN111711-01	~~0.076~~ 0.100	~~0.068~~ 0.090	~~0.083~~ 0.110

A 5/1/12

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	2.03		
		Ethanol	2.67		
		Acetone	3.07		
		Isopropanol	3.20		
		T- butanol	3.64		
		n-propanol	4.45		
3	Standard A		0.0053	(Y) N	
4	Standard B		0.021	(Y) N	
5	Standard C		0.082	(Y) N	
6	Standard D		0.198	(Y) N	
7	Standard E		0.411	(Y) N	
8	~~Whole Blood Control~~ AQ		0.0977	(Y) N	
9	~~Whole Blood Control~~ AQ		0.1003	(Y) N	$\bar{X} = 0.099$ ✓

A 5/1/12

TLC 5/3/2012

File Name: C:\Methods\SimCal 04302012.cal
Version: 2

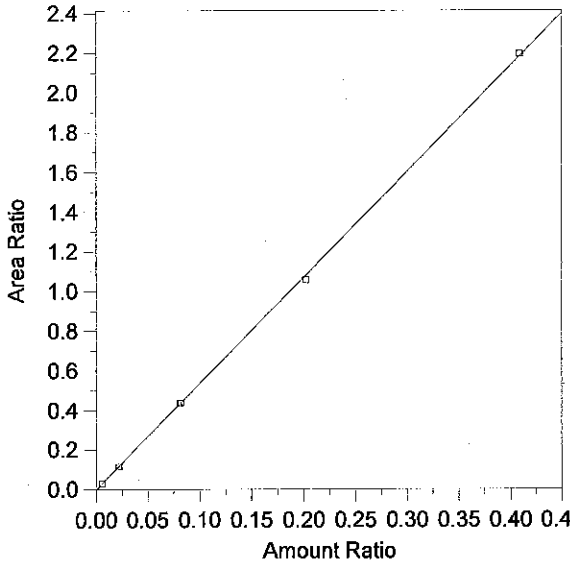
Creator:
Description:
Reason for change:

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

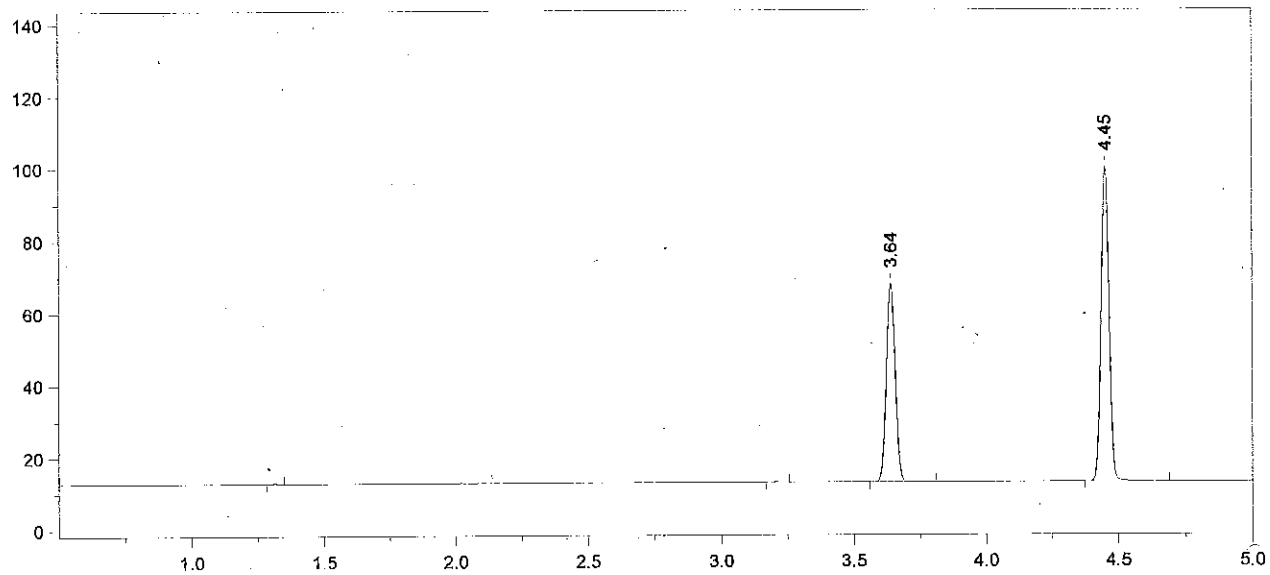
High alarm limit: 0
Low alarm limit: 0
Component constant: 0

Single peak quantification by area

$Y = 5.339656 X + 0$

Linear fit with equal weighting, forced to origin
Coefficient of determination: 0.999788
Average error: 1.744%
Average CF: 5.25803
RSD: 1.629%

Level	Amount	Response	Cal Factor	Error, %	Amount Ratio	Response Ratio	Source	Date and time
1	(0.088)	(85146)	--	--	0.088	85146	Manual	2/24/2012 1:50:47 PM
2	0.0055	5220.286	949142.9	-3.227	0.0055	0.0284203	C:\Alcohol Data\SIM04302012\SIM04302012.0003.BND	4/30/2012 4:33:05 PM
3	0.022	20463.9	930177.3	-2.580	0.022	0.1144414	C:\Alcohol Data\SIM04302012\SIM04302012.0004.BND	4/30/2012 4:51:27 PM
4	0.082	78042.62	951739.2	-0.240	0.082	0.4368017	C:\Alcohol Data\SIM04302012\SIM04302012.0005.BND	4/30/2012 5:05:00 PM
5	0.202	187698.2	929199	-2.134	0.202	1.05559	C:\Alcohol Data\SIM04302012\SIM04302012.0006.BND	4/30/2012 5:22:53 PM
6	0.409	398669.8	974742.8	0.538	0.409	2.195675	C:\Alcohol Data\SIM04302012\SIM04302012.0007.BND	4/30/2012 5:36:27 PM



Format File Name = simsoln-JFH.met.FMT

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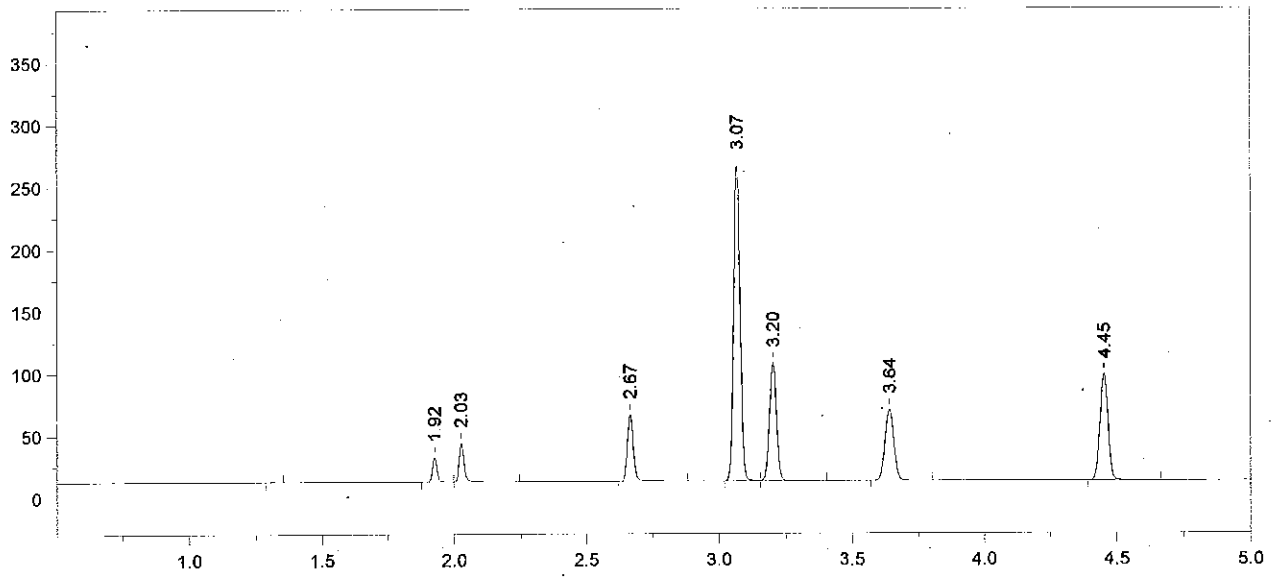
Bound File Name = SIM04302012.0001.RAW
Sample Name = Blank
Date Taken = 4/30/2012 4:02:24 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	3.64	t-Butanol	127024	0.9628	0.7859
4	4.45	n-Propanol	184459	1.0000	0.8162



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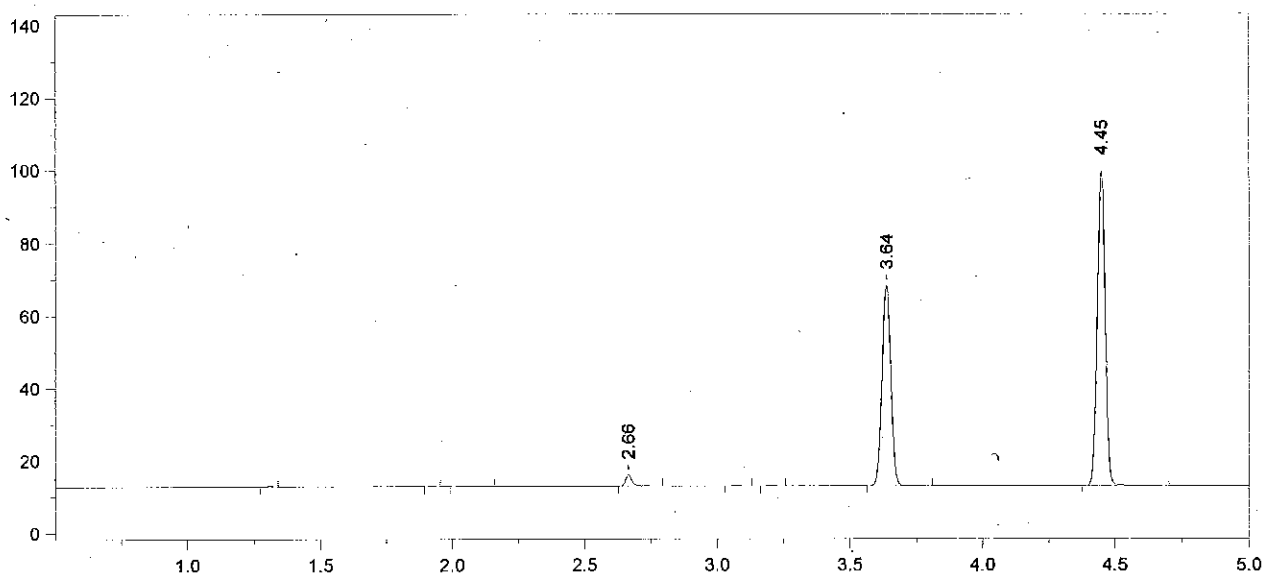
Bound File Name = SIM04302012.0002.RAW
Sample Name = TMX
Date Taken = 4/30/2012 4:19:50 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal
Calibration Version = 2

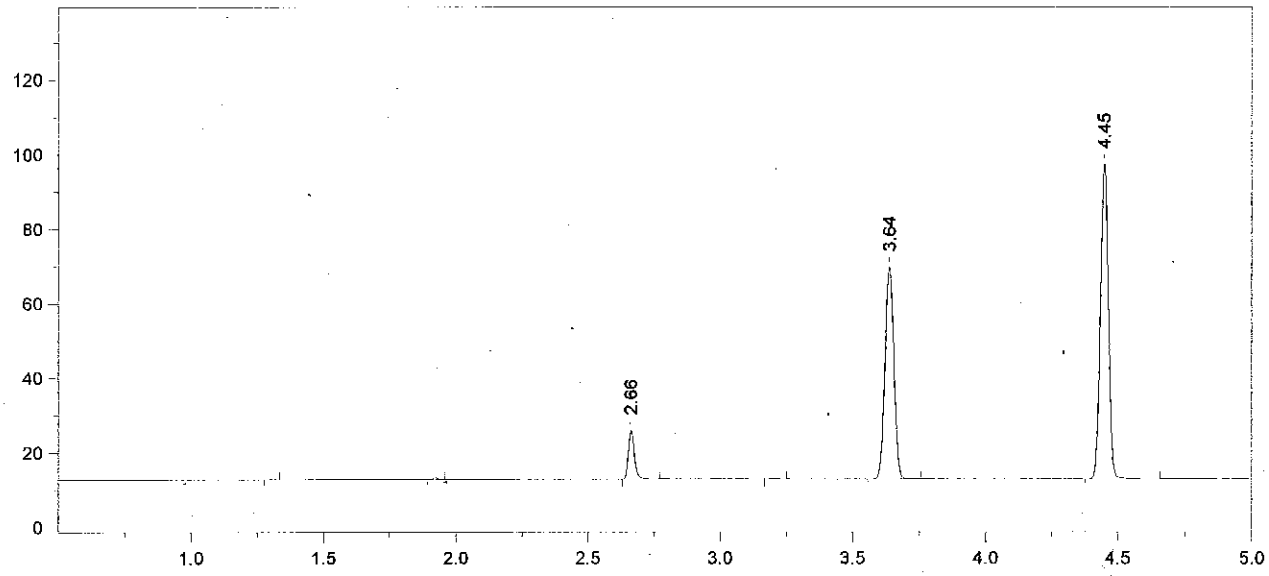
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	1.92	Acetaldehyde	23098	0.0650	0.0531
3	2.03	Methanol	39625	0.0890	0.0726
4	2.67	Ethanol	83244	0.0859	0.0702
5	3.07	Acetone	431976	0.1030	0.0841
6	3.20	Isopropanol	176700	0.0910	0.0743
7	3.64	t-Butanol	132248	1.0194	0.8321
8	4.45	n-Propanol	181383	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:15:18 AM
Bound File Name = SIM04302012.0003.RAW
Sample Name = STD A
Date Taken = 4/30/2012 4:32:58 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
4	2.66	Ethanol	05220	0.0053	0.0043
7	3.64	t-Butanol	127940	0.9739	0.7949
8	4.45	n-Propanol	183682	1.0000	0.8162



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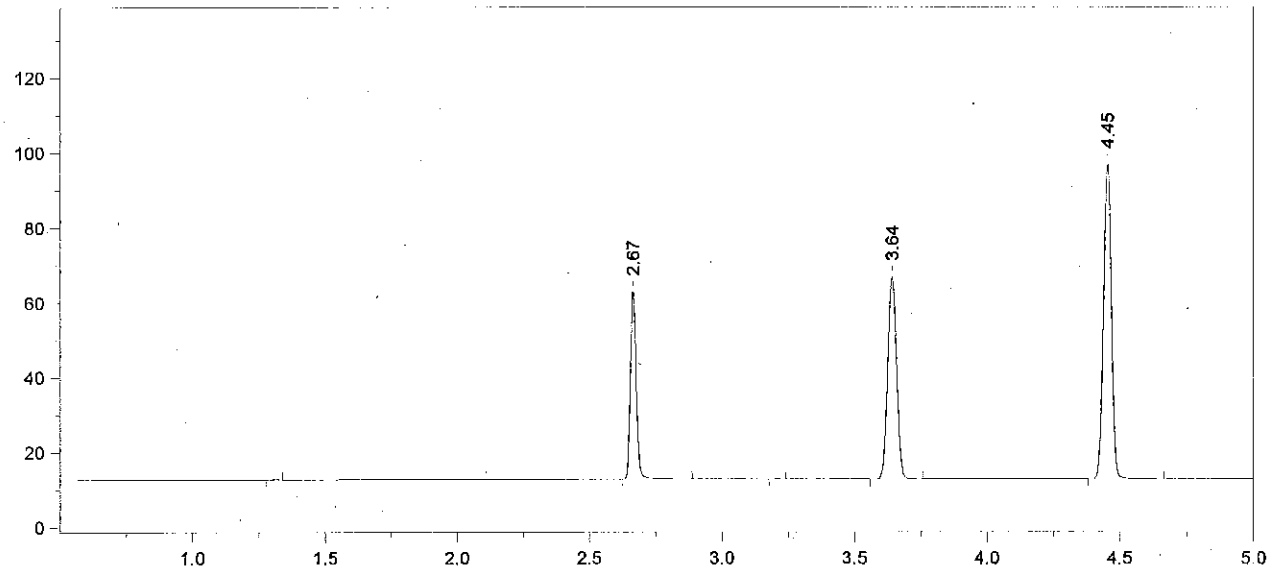
Today's Date = 5/1/2012 Today's Time = 7:15:25 AM
Bound File Name = SIM04302012.0004.RAW
Sample Name = STD B
Date Taken = 4/30/2012 4:51:17 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

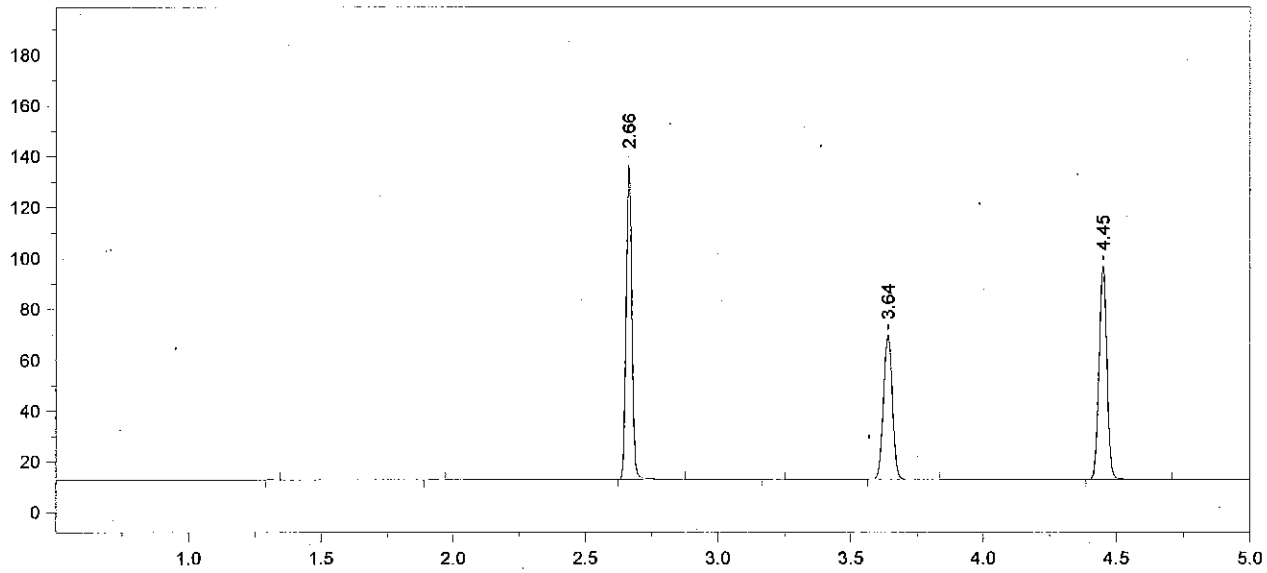
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.66	Ethanol	20464	0.0214	0.0175
5	3.64	t-Butanol	131399	1.0274	0.8386
6	4.45	n-Propanol	178816	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:15:31 AM
Bound File Name = SIM04302012.0005.RAW
Sample Name = STD C
Date Taken = 4/30/2012 5:04:55 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

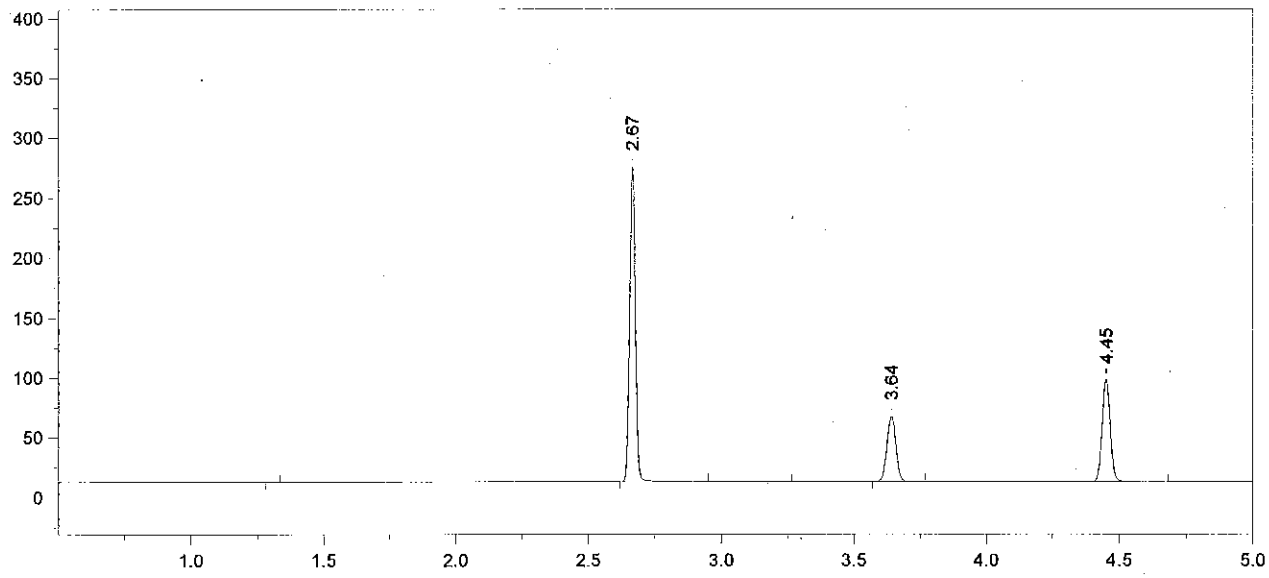
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	78043	0.0818	0.0668
4	3.64	t-Butanol	125367	0.9811	0.8008
5	4.45	n-Propanol	178668	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:15:38 AM
Bound File Name = SIM04302012.0006.RAW
Sample Name = STD D
Date Taken = 4/30/2012 5:22:44 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

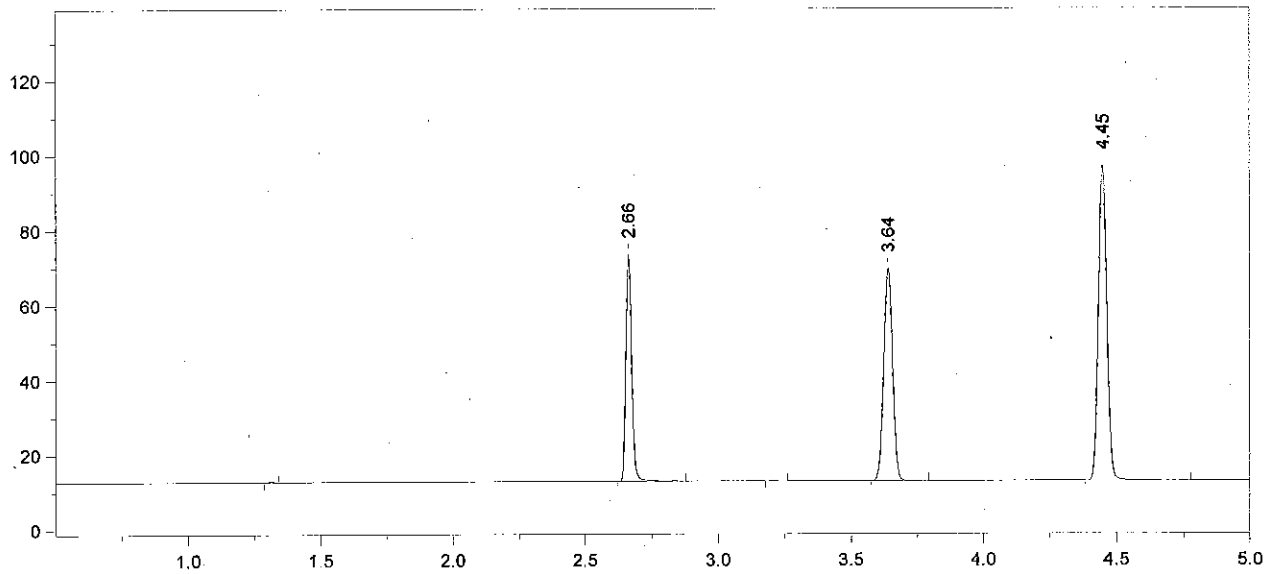
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.66	Ethanol	187698	0.1977	0.1614
5	3.64	t-Butanol	130620	1.0271	0.8383
6	4.45	n-Propanol	177814	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:15:43 AM
Bound File Name = SIM04302012.0007.RAW
Sample Name = STD E
Date Taken = 4/30/2012 5:36:22 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

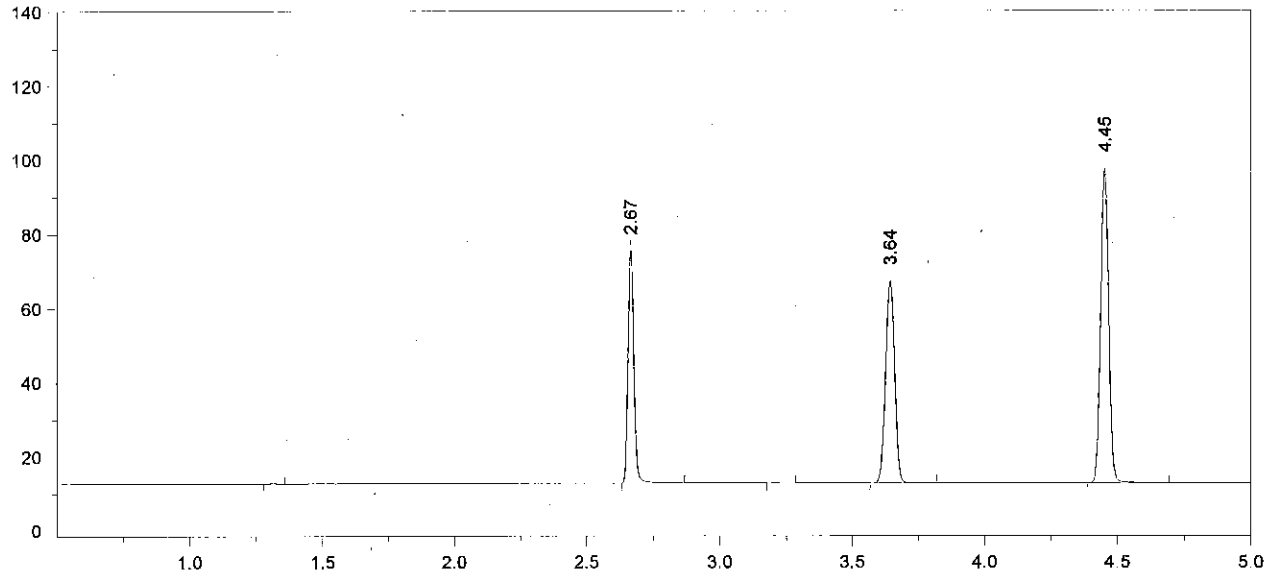
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	398670	0.4112	0.3356
4	3.64	t-Butanol	126094	0.9710	0.7925
5	4.45	n-Propanol	181571	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:15:49 AM
Bound File Name = SIM04302012.0008.RAW
Sample Name = AQ QC
Date Taken = 4/30/2012 5:54:08 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

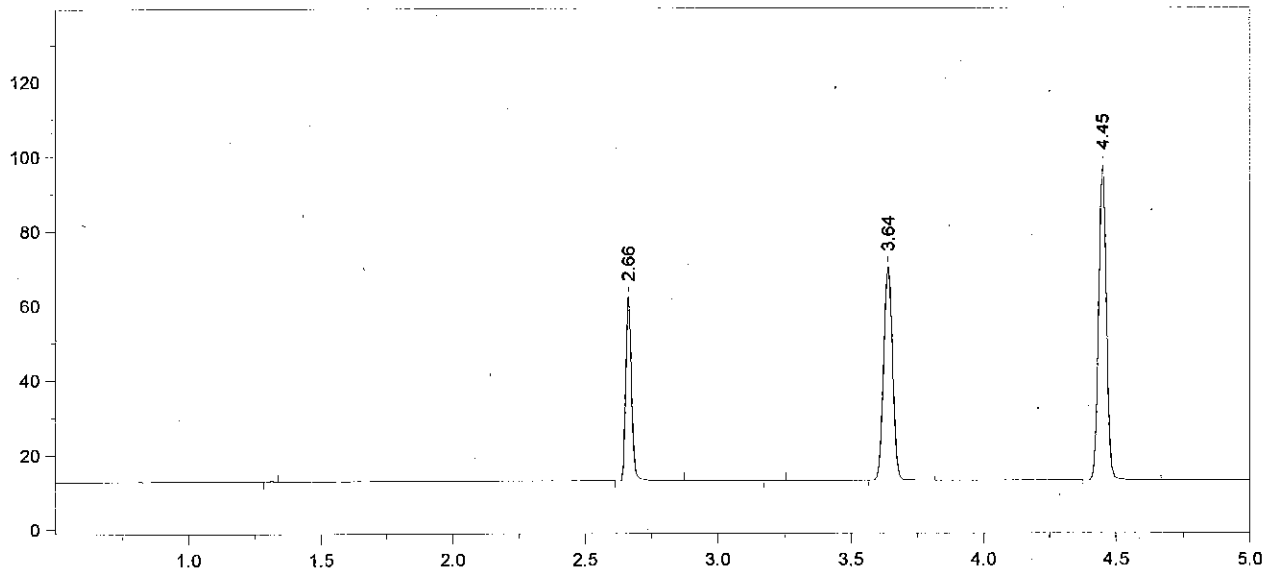
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	93296	0.0977	0.0798
4	3.64	t-Butanol	130609	1.0215	0.8338
5	4.45	n-Propanol	178768	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:15:56 AM
Bound File Name = SIM04302012.0009.RAW
Sample Name = AQ QC
Date Taken = 4/30/2012 6:07:46 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

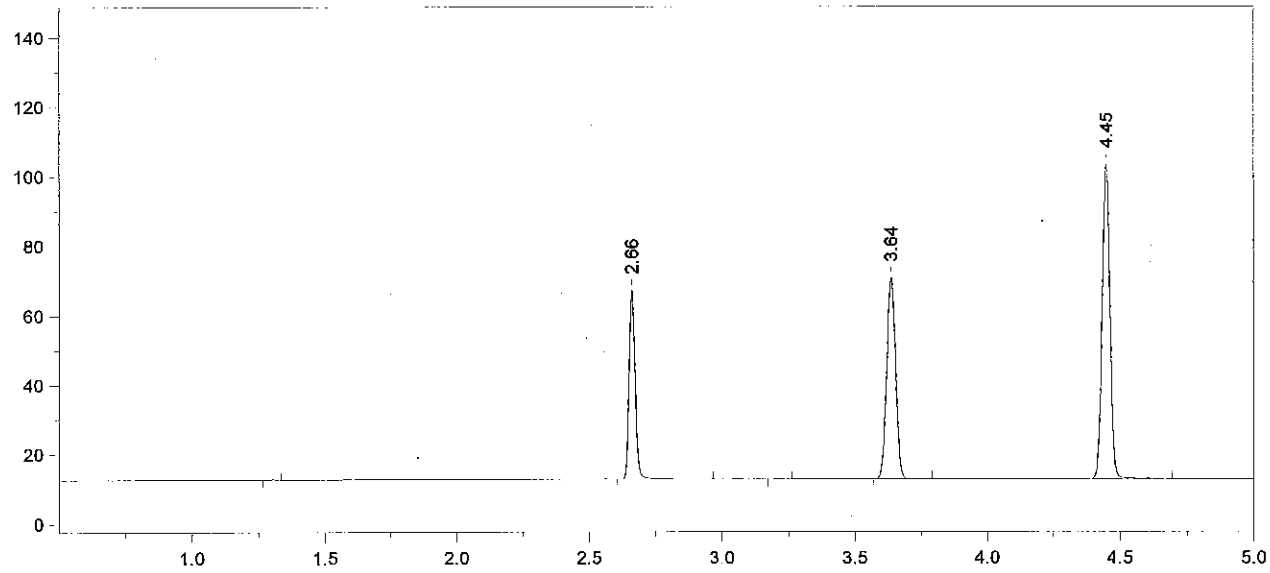
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	96444	0.1003	0.0819
4	3.64	t-Butanol	125795	0.9772	0.7976
5	4.45	n-Propanol	179999	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:16:02 AM
Bound File Name = SIM04302012.0010.RAW
Sample Name = CCS
Date Taken = 4/30/2012 6:25:33 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

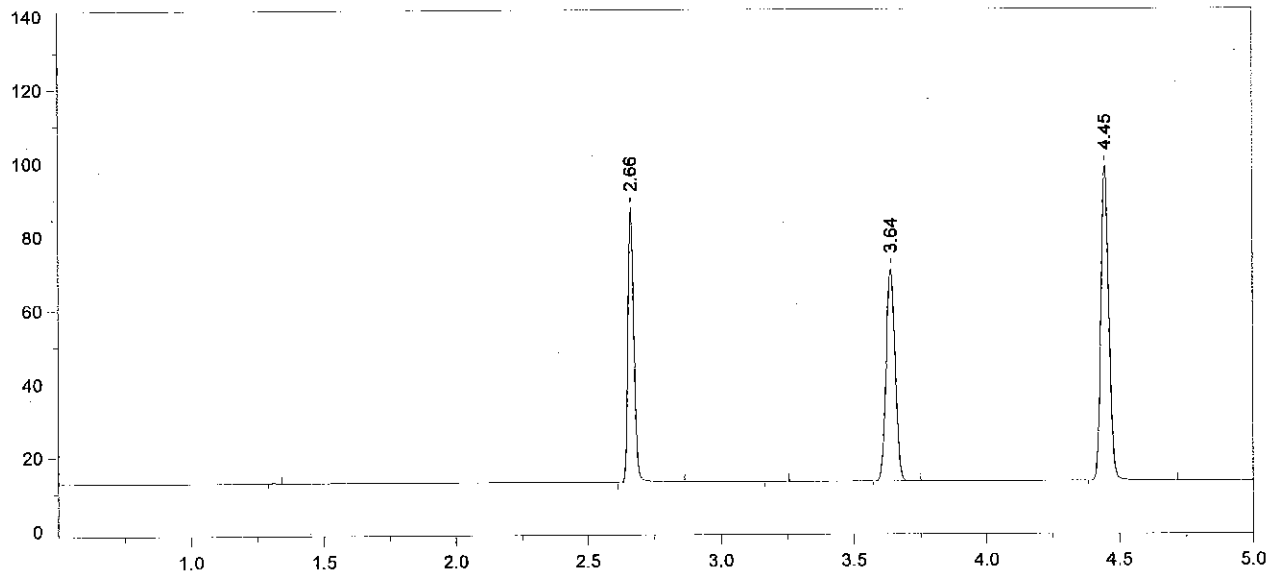
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	75758	0.0793 ✓	0.0648
4	3.64	t-Butanol	131674	1.0296	0.8403
5	4.45	n-Propanol	178821	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:16:09 AM
Bound File Name = SIM04302012.0011.RAW
Sample Name = CCS
Date Taken = 4/30/2012 6:39:11 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

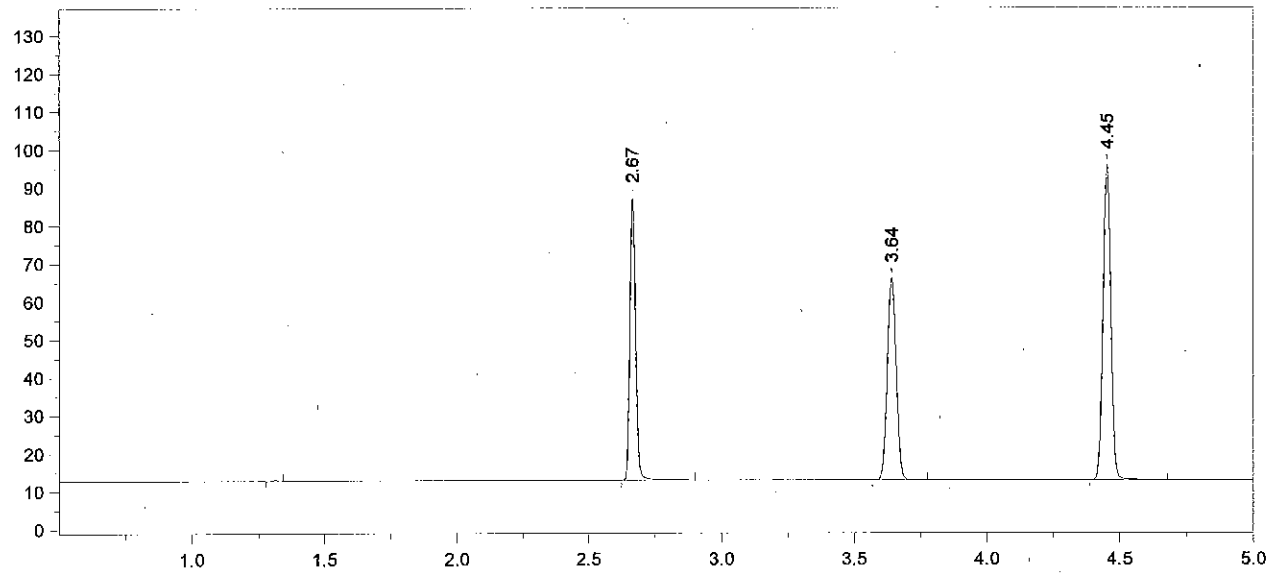
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	84329	0.0821	0.0670
4	3.64	t-Butanol	133421	0.9703	0.7920
5	4.45	n-Propanol	192261	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:16:20 AM
Bound File Name = SIM04302012.0012.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 4/30/2012 6:56:57 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

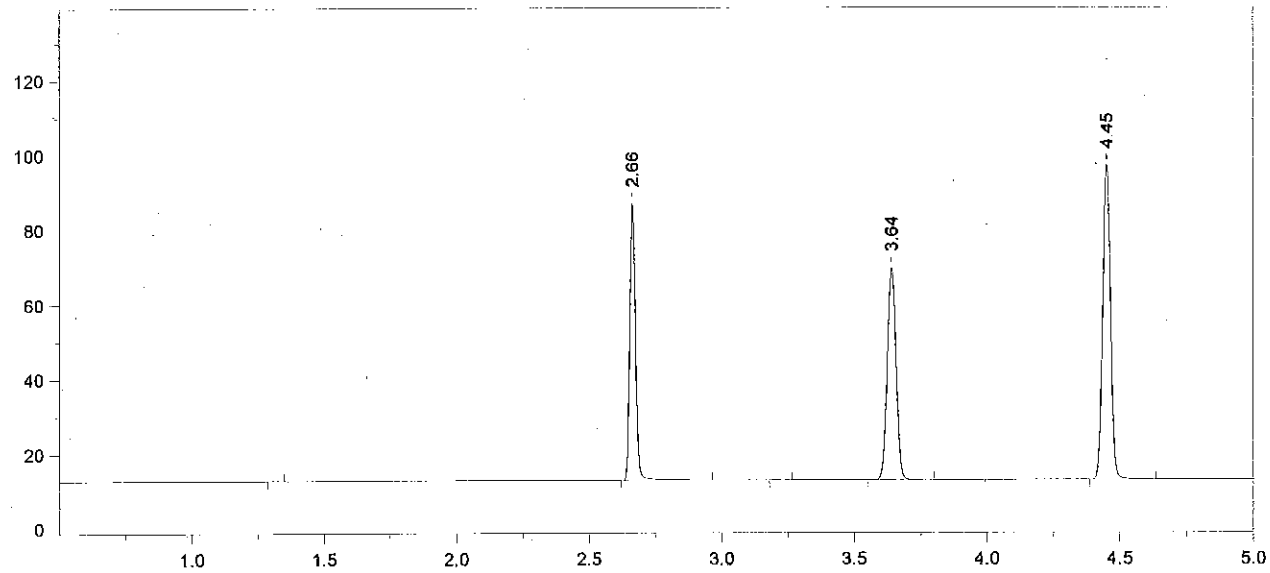
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	114619	0.1185	0.0967
4	3.64	t-Butanol	133094	1.0270	0.8382
5	4.45	n-Propanol	181208	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:16:30 AM
Bound File Name = SIM04302012.0013.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 4/30/2012 7:10:45 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

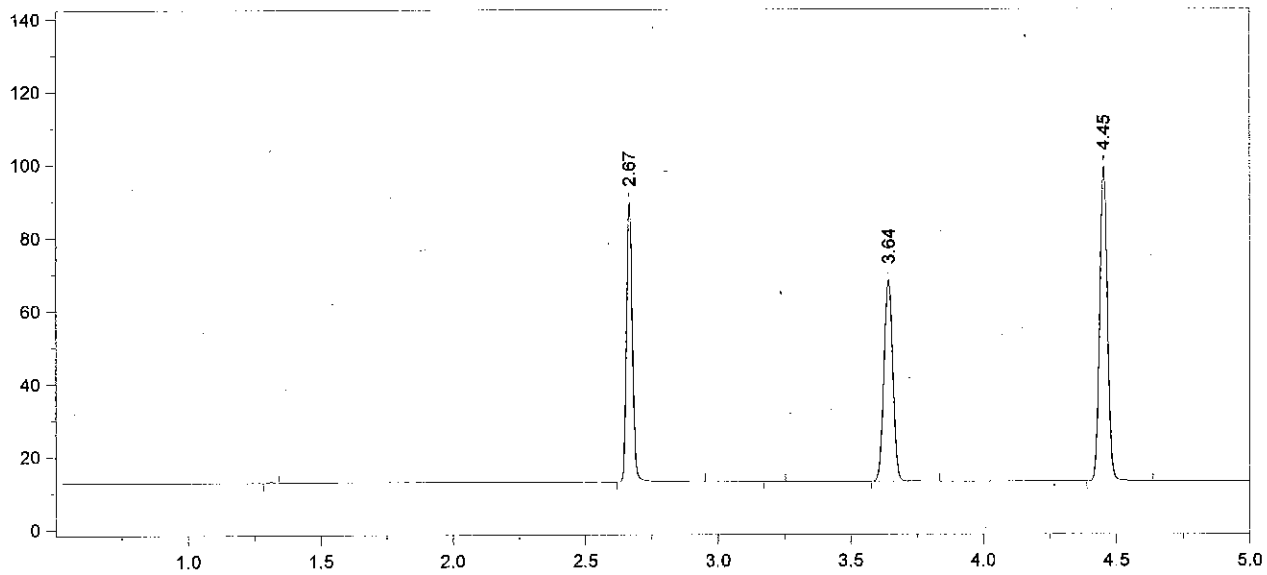
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	114851	0.1226	0.1000
3	3.64	t-Butanol	122532	0.9762	0.7967
4	4.45	n-Propanol	175509	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 7:16:36 AM
Bound File Name = SIM04302012.0014.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 4/30/2012 7:28:21 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal
Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	114235	0.1198	0.0977
4	3.64	t-Butanol	131067	1.0258	0.8373
5	4.45	n-Propanol	178642	1.0000	0.8162



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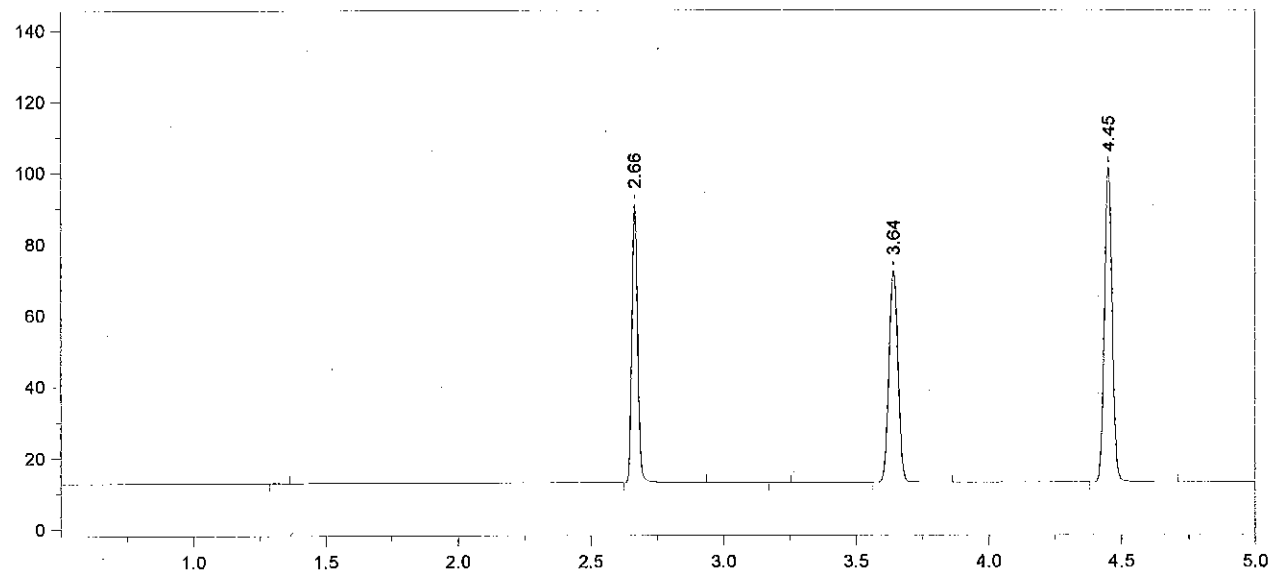
Today's Time = 7:16:42 AM
Bound File Name = SIM04302012.0015.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 4/30/2012 7:42:04 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal
Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	118403	0.1218	0.0994
4	3.64	t-Butanol	127173	0.9765	0.7970
5	4.45	n-Propanol	182098	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

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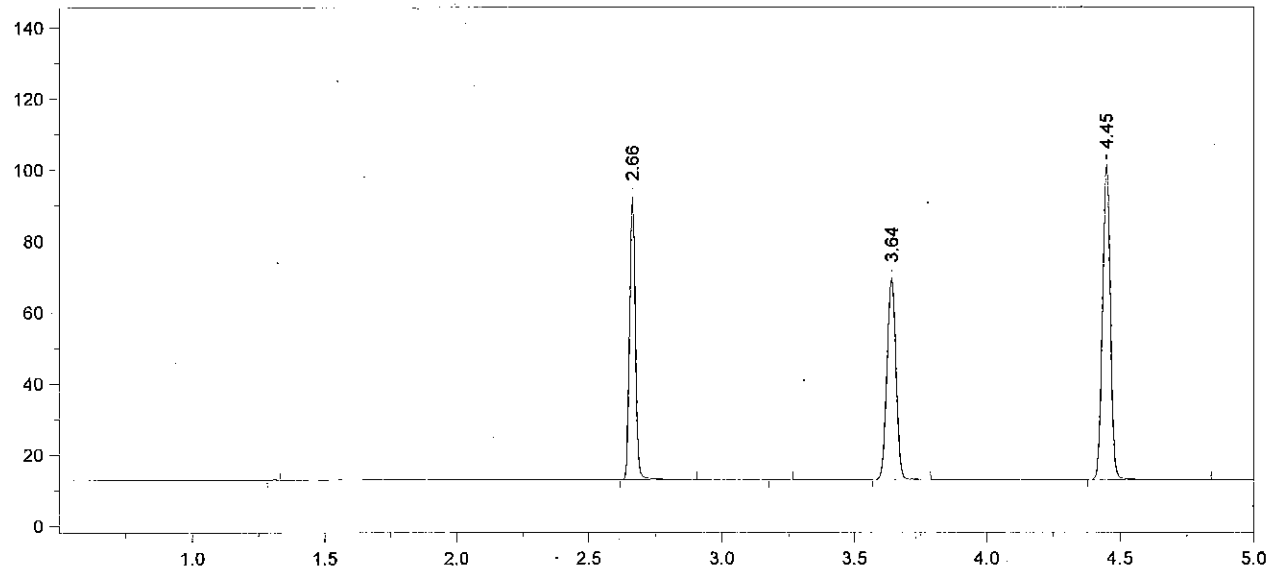
Bound File Name = SIM04302012.0016.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 4/30/2012 7:58:05 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

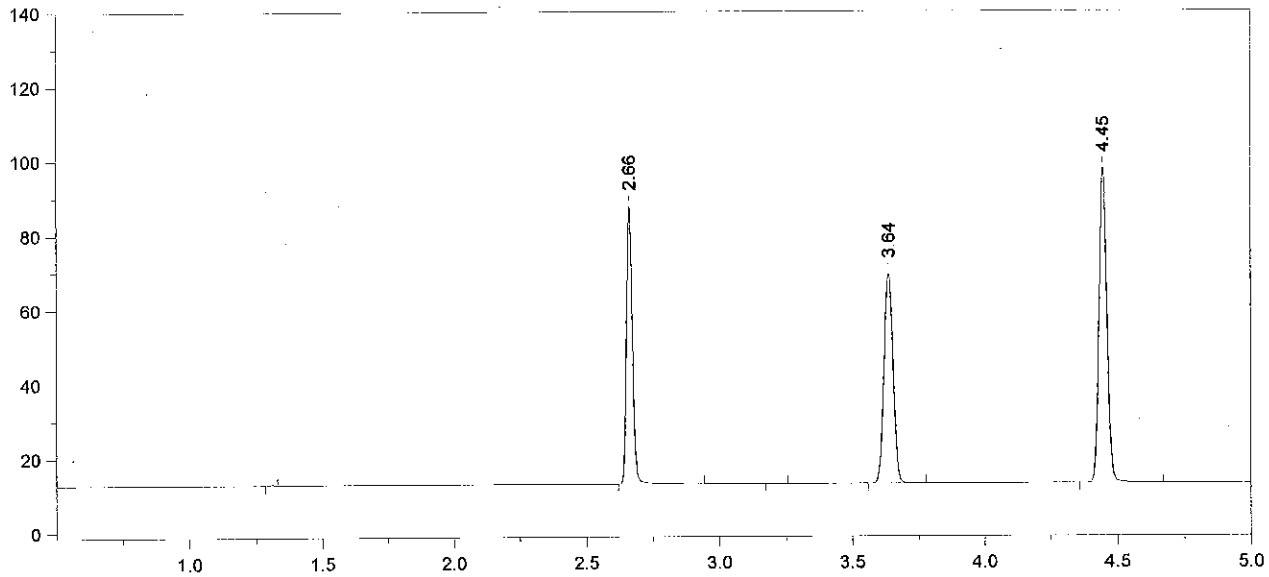
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	119545	0.1191	0.0972
4	3.64	t-Butanol	136987	1.0192	0.8318
5	4.45	n-Propanol	187933	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:16:53 AM
Bound File Name = SIM04302012.0017.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 4/30/2012 8:13:44 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

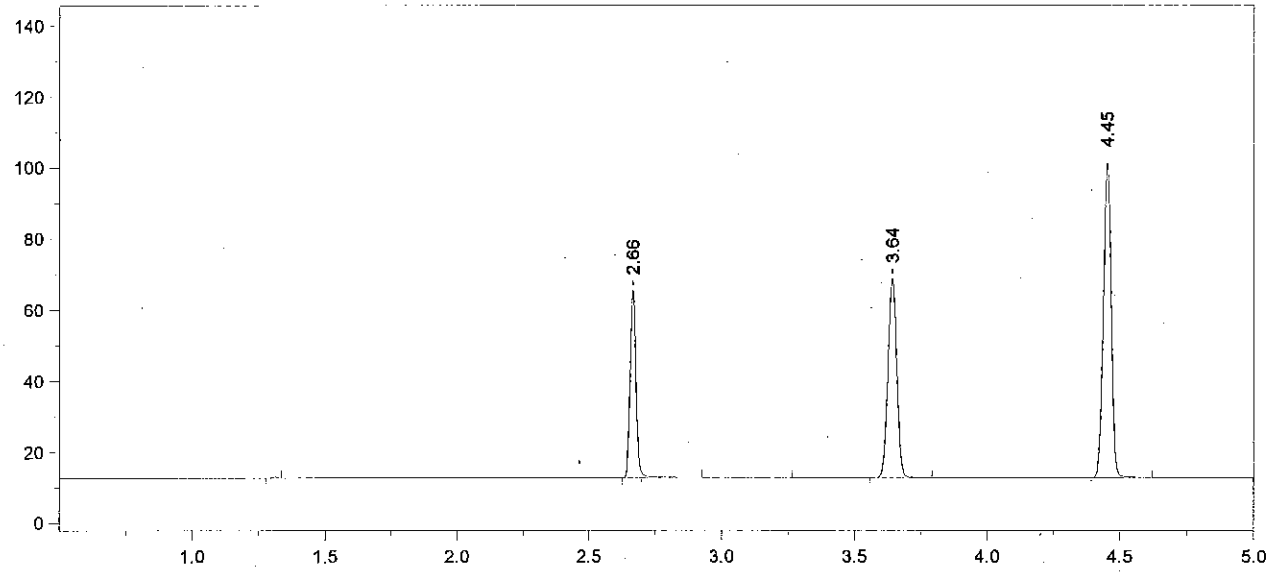
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	122109	0.1217	0.0993
4	3.64	t-Butanol	130391	0.9704	0.7920
5	4.45	n-Propanol	187878	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 7:17:01 AM
Bound File Name = SIM04302012.0018.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 4/30/2012 8:29:32 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal
Calibration Version = 2

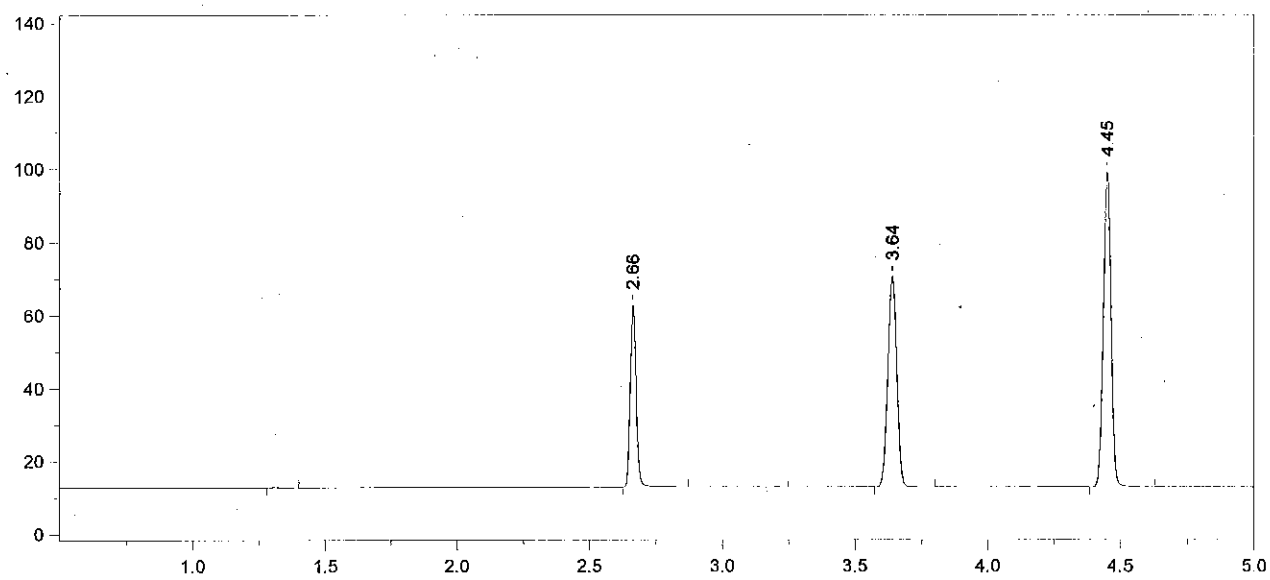
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	115072	0.1203	0.0982
4	3.64	t-Butanol	130566	1.0191	0.8318
5	4.45	n-Propanol	179145	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:17:16 AM
Bound File Name = SIM04302012.0019.RAW
Sample Name = CCS
Date Taken = 4/30/2012 8:44:03 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

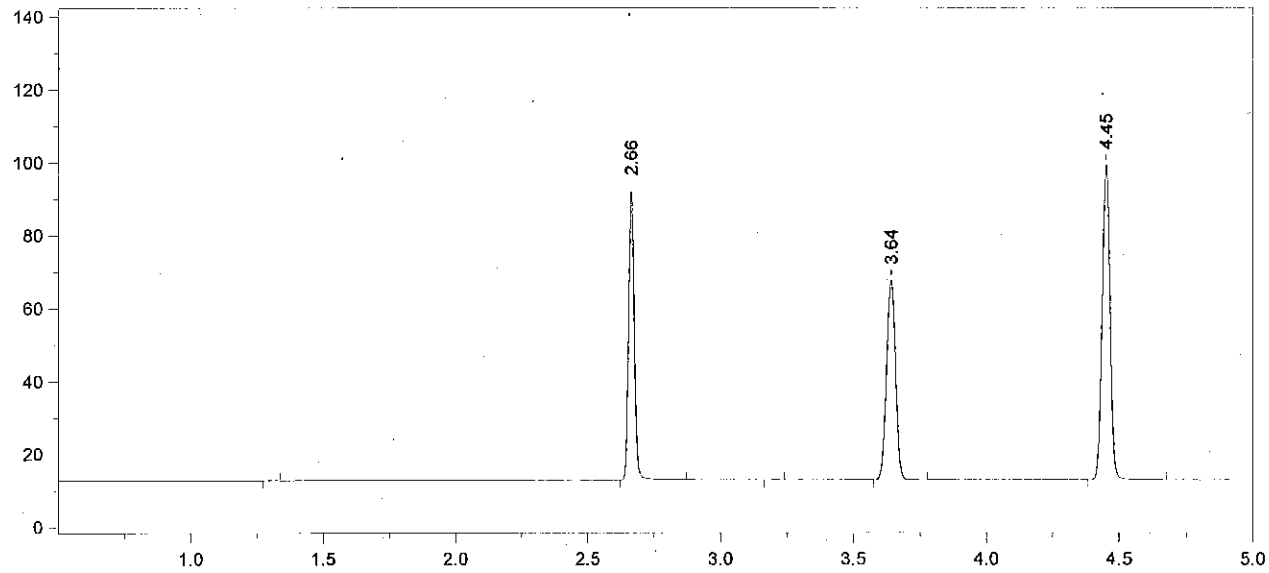
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	82149	0.0816	0.0666
4	3.64	t-Butanol	129745	0.9625	0.7856
5	4.45	n-Propanol	188488	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:17:23 AM
Bound File Name = SIM04302012.0020.RAW
Sample Name = CCS
Date Taken = 4/30/2012 9:00:59 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

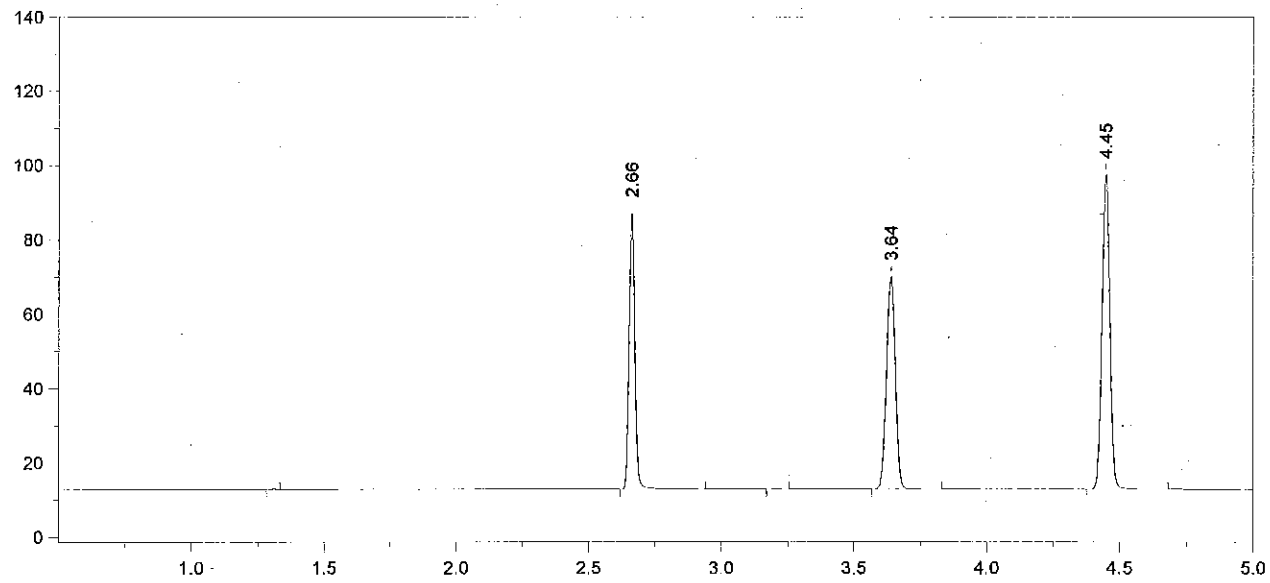
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	76721	0.0791	0.0645
4	3.64	t-Butanol	132942	1.0229	0.8349
5	4.45	n-Propanol	181720	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:17:31 AM
Bound File Name = SIM04302012.0021.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 4/30/2012 9:14:12 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file =.SimCal 04302012.cal Calibration Version = 2

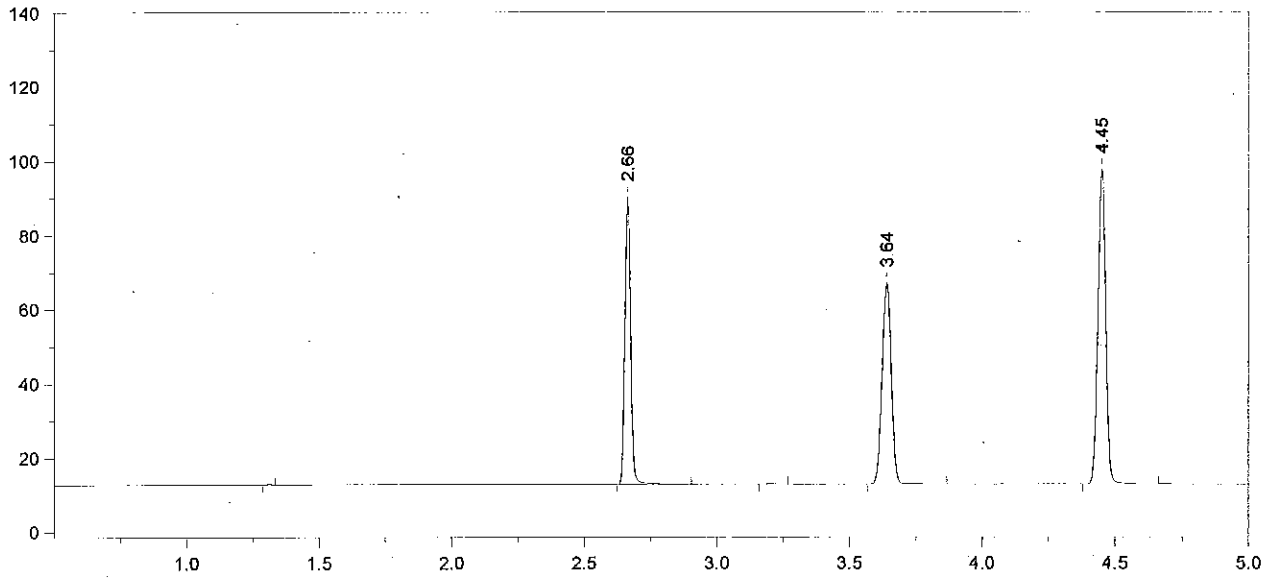
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	121254	0.1235	0.1008
4	3.64	t-Butanol	126519	0.9623	0.7854
5	4.45	n-Propanol	183833	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:17:41 AM
Bound File Name = SIM04302012.0022.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 4/30/2012 9:32:26 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

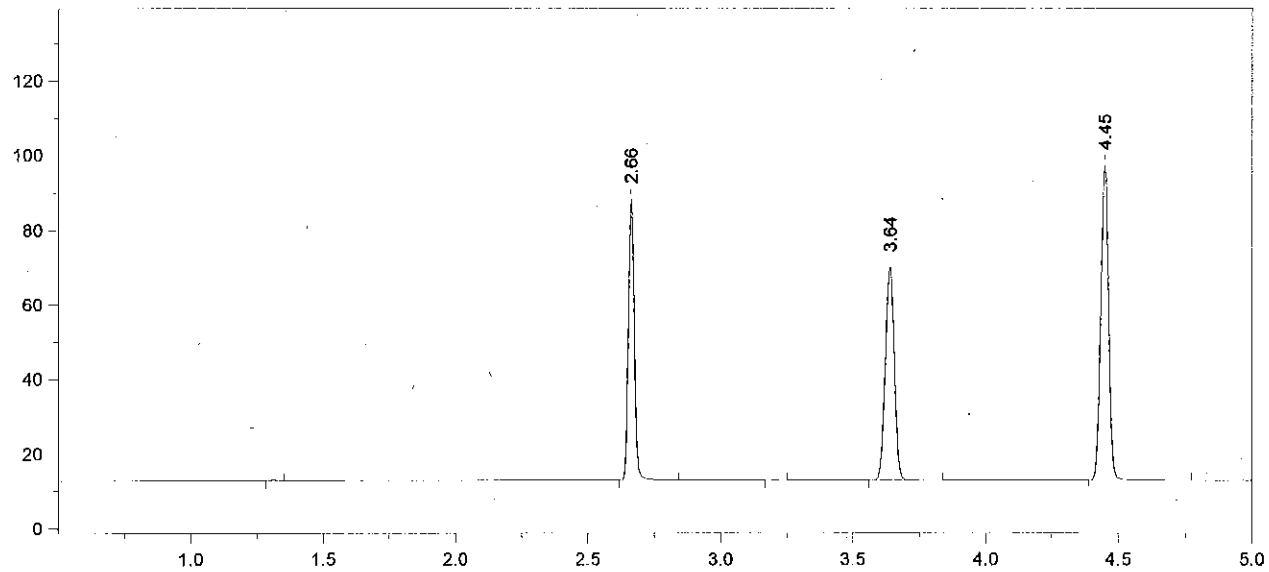
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	114017	0.1190	0.0971
4	3.64	t-Butanol	131979	1.0283	0.8393
5	4.45	n-Propanol	179459	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:17:49 AM
Bound File Name = SIM04302012.0023.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 4/30/2012 9:46:09 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

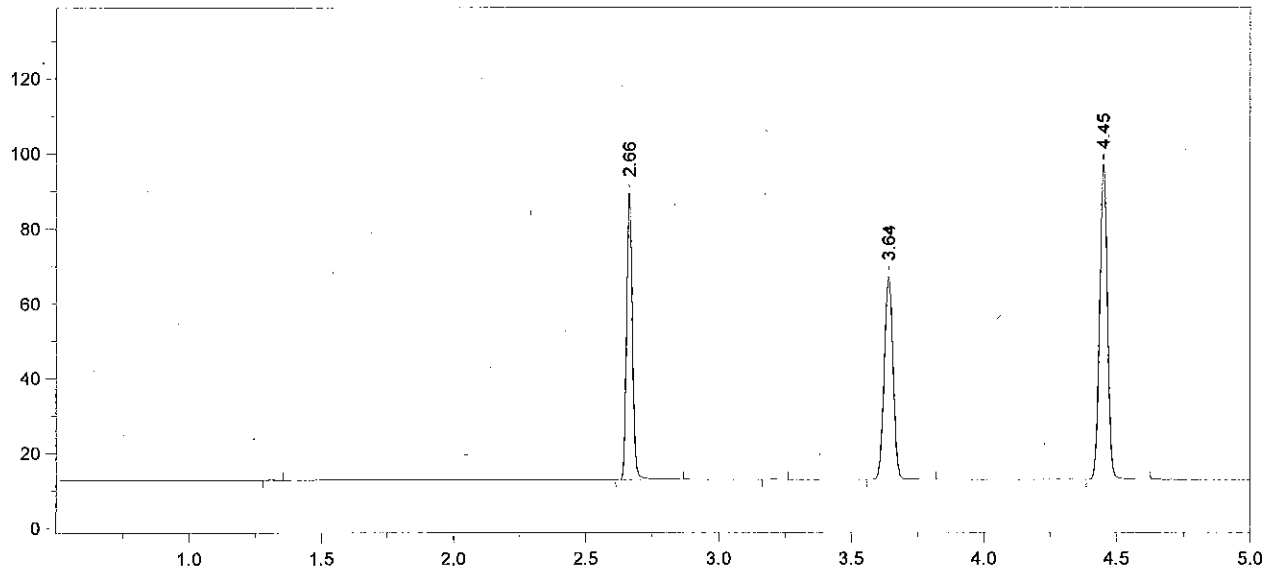
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	118465	0.1240	0.1012
4	3.64	t-Butanol	125186	0.9779	0.7982
5	4.45	n-Propanol	178990	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:17:58 AM
Bound File Name = SIM04302012.0024.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 4/30/2012 10:03:50 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

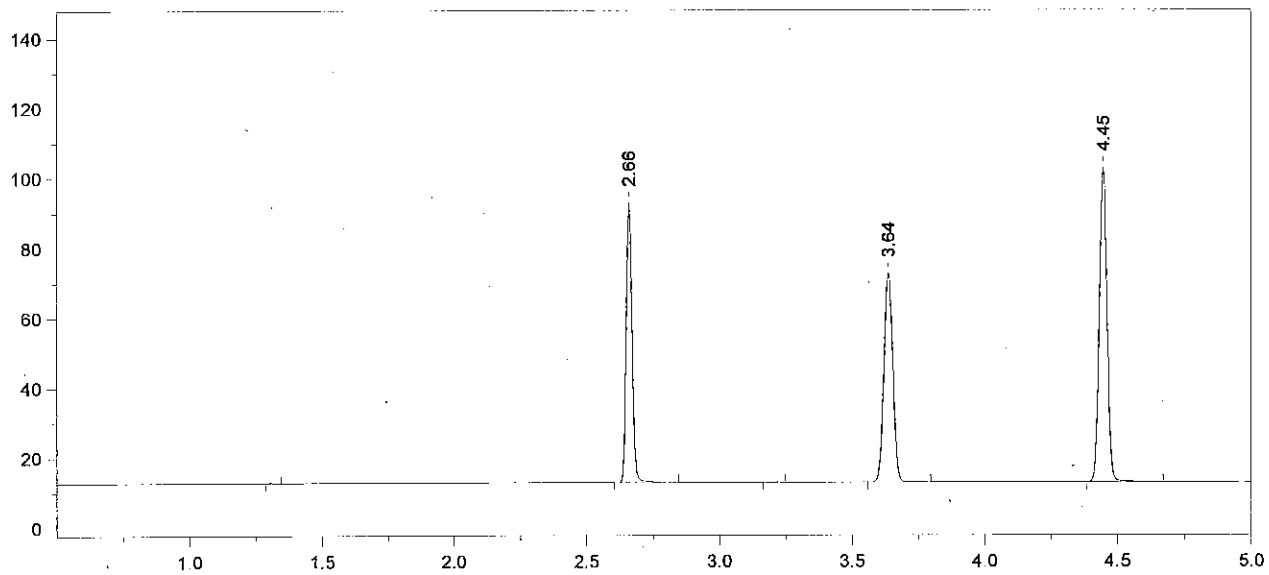
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	115636	0.1206	0.0984
4	3.64	t-Butanol	131592	1.0246	0.8363
5	4.45	n-Propanol	179570	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:18:06 AM
Bound File Name = SIM04302012.0025.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 4/30/2012 10:17:33 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

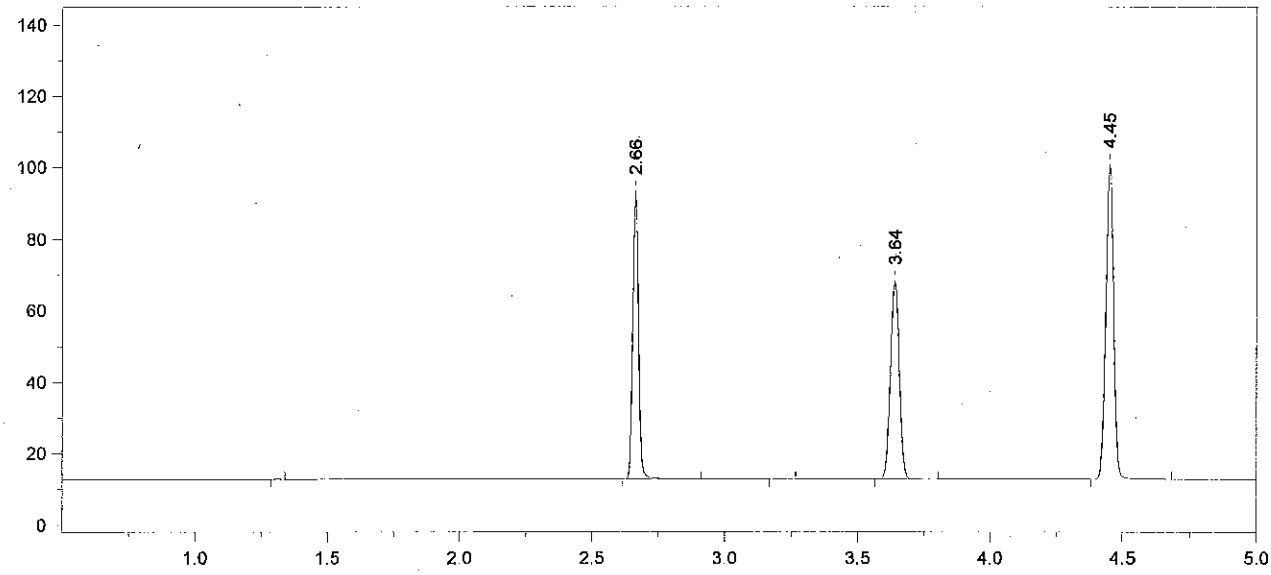
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	116797	0.1230	0.1004
4	3.64	t-Butanol	125105	0.9834	0.8026
5	4.45	n-Propanol	177876	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 7:18:16 AM
Bound File Name = SIM04302012.0026.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 4/30/2012 10:33:35 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal
Calibration Version = 2

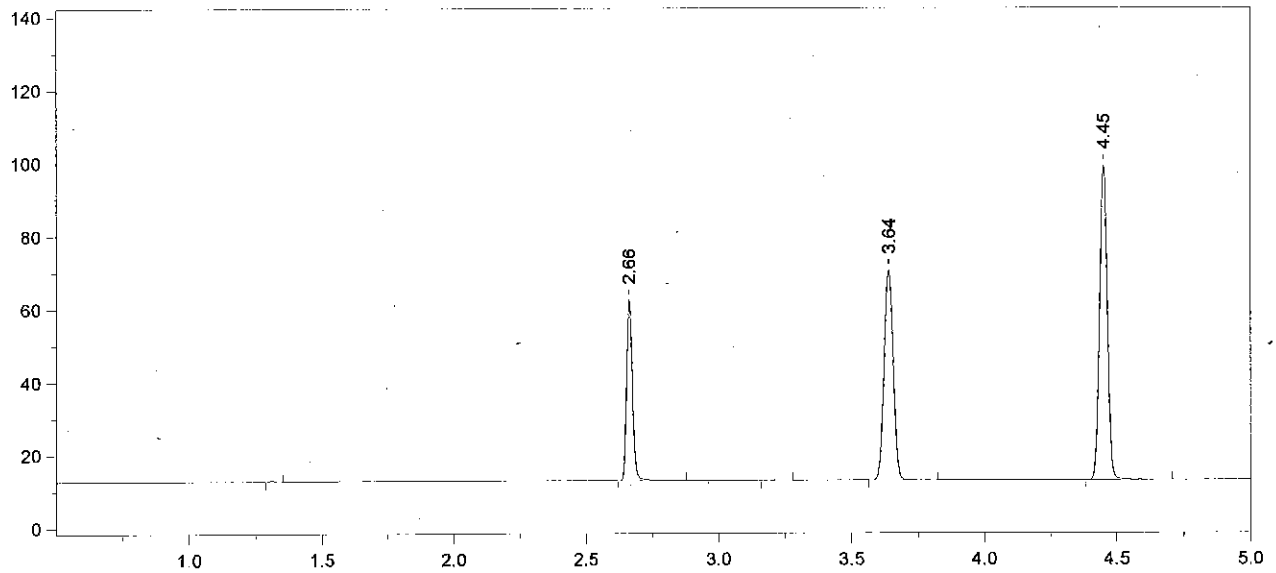
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	122159	0.1203	0.0982
4	3.64	t-Butanol	137954	1.0143	0.8279
5	4.45	n-Propanol	190169	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:18:24 AM
Bound File Name = SIM04302012.0027.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 4/30/2012 10:49:00 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

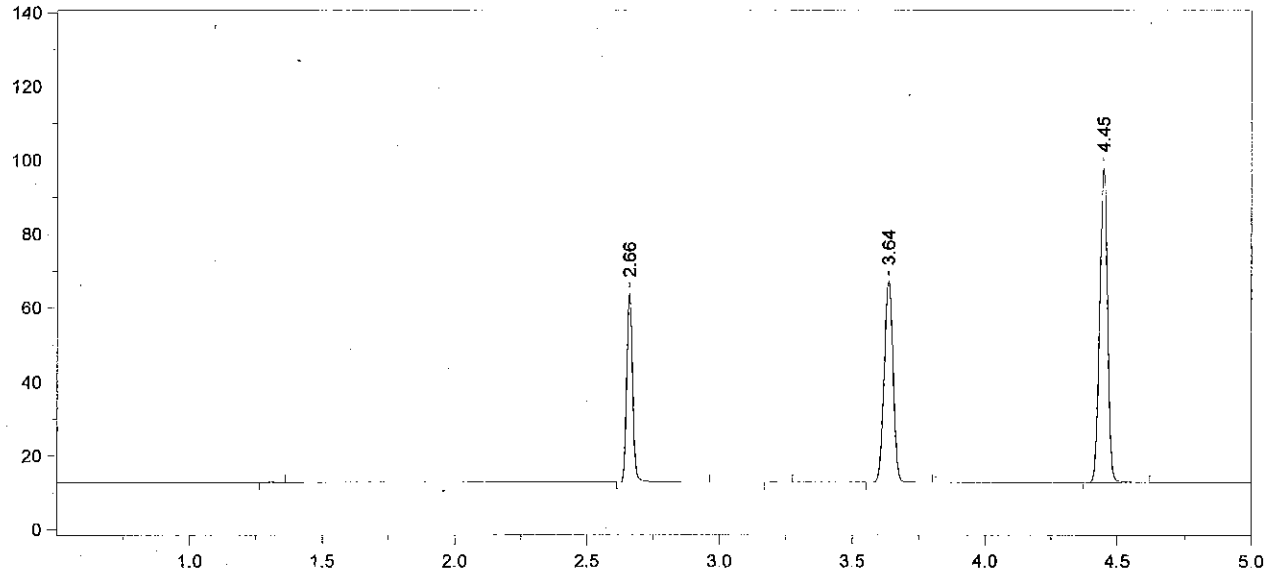
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	123533	0.1247	0.1018
4	3.64	t-Butanol	127839	0.9633	0.7863
5	4.45	n-Propanol	185555	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:18:33 AM
Bound File Name = SIM04302012.0028.RAW
Sample Name = CCS
Date Taken = 4/30/2012 11:05:06 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	76172	0.0784	0.0640
4	3.64	t-Butanol	133450	1.0251	0.8367
5	4.45	n-Propanol	182023	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 7:18:41 AM
Bound File Name = SIM04302012.0029.RAW
Sample Name = CCS
Date Taken = 4/30/2012 11:19:27 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 04302012.cal Calibration Version = 2

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	79462	0.0823	0.0672
4	3.64	t-Butanol	125961	0.9737	0.7947
5	4.45	n-Propanol	180881	1.0000	0.8162

Headspace Alcohol Analysis Standards Coversheet

Analyst: AEB Date: 5/1/12

Calibration Standards:

Lot ID: ES-03052012 Preparation Date: 03/05/2012* Expiration Date: 06/05/2012_
*Standard E was re-prepared on 3/7/2012

	Standard A	Standard B	Standard C	Standard D	Standard E	Calibration Check
% Ethanol (w/v)	0.005	0.022	0.082	0.202	0.409	
Acceptance Range (± 10%)	0.006	0.024	0.090	0.222	0.450	
	0.004	0.020	0.074	0.182	0.368	

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		0.0054	(Y) N	
4	Standard B		0.022	(Y) N	
5	Standard C		0.081	(Y) N	
6	Standard D		0.197	(Y) N	
7	Standard E		0.411	(Y) N	
8	Aqueous QC		0.0997	(Y) N	
9	Aqueous QC		0.0991	(Y) N	$\bar{x}$ = 0.099 ✓

TLCA 5/3/2012

File Name: C:\Methods\SimCal 05012012.cal
Version: 7

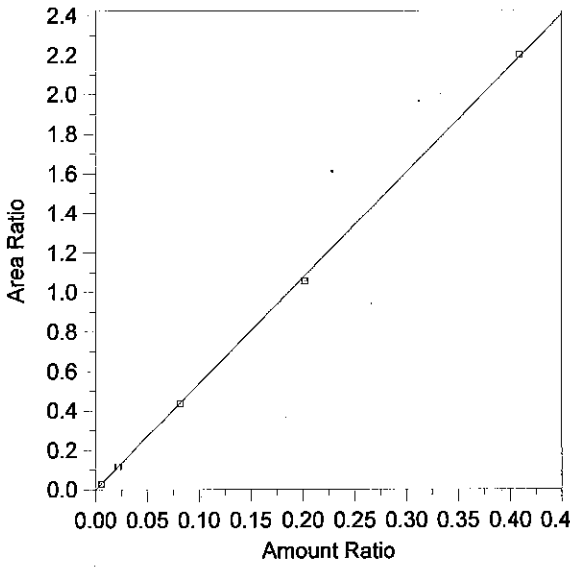
Creator:
Description:
Reason for change:

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

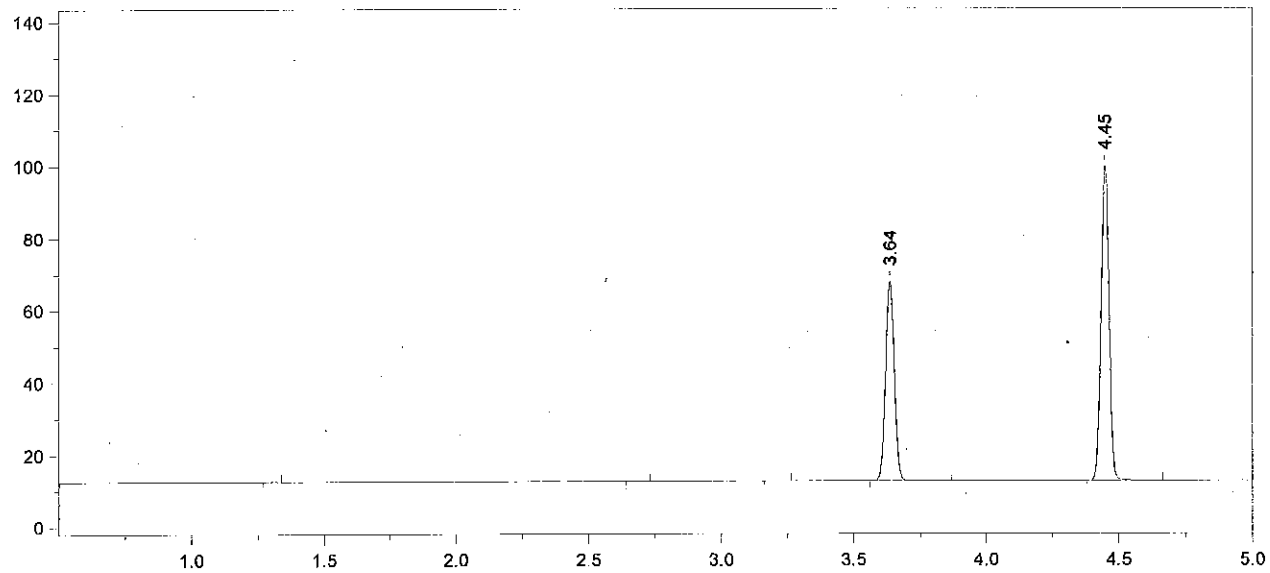
High alarm limit: 0
Low alarm limit: 0
Component constant: 0

Single peak quantification by area

$Y = 5.355261 X + 0$

Linear fit with equal weighting, forced to origin
Coefficient of determination: 0.9997209
Average error: 1.156%
Average CF: 5.306862
RSD: 1.115%

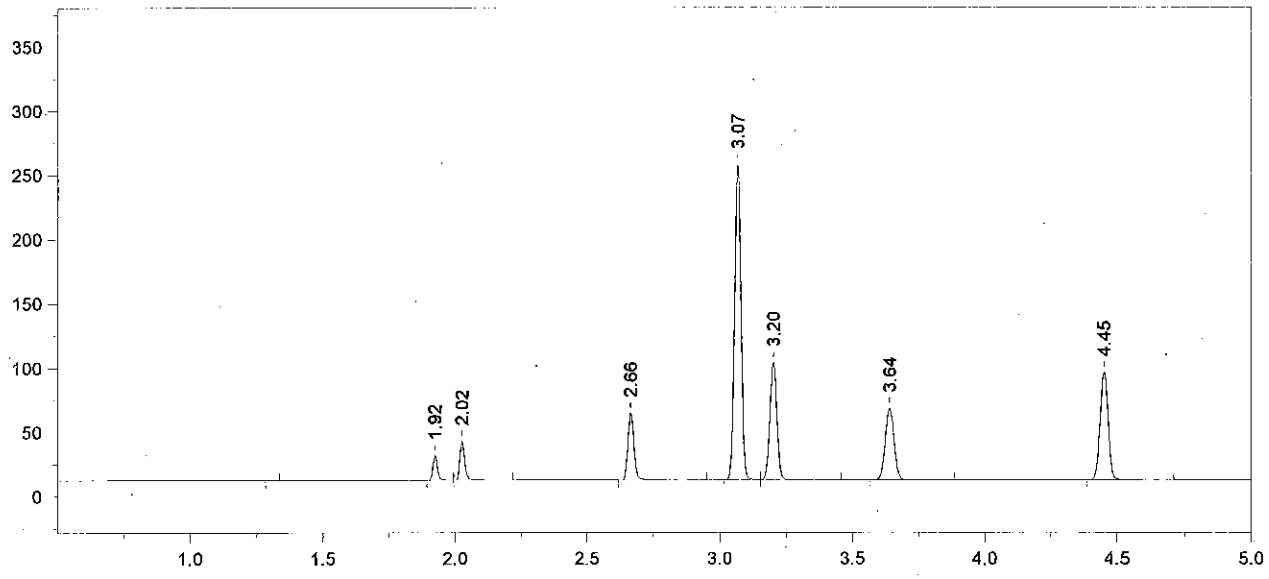
Level	Amount	Response	Cal Factor	Error, %	Amount Ratio	Response Ratio	Source	Date and time
1	(0.088)	(85146)	--	--	0.088	85146	Manual	2/24/2012 1:50:47 PM
2	0.0055	5193.838	944334.2	-1.232	0.0055	0.0290912	C:\Alcohol Data\SIM05012012\SIM05012012.0003.BND	5/1/2012 10:41:13 AM
3	0.022	21169.32	962241.8	-0.655	0.022	0.1170444	C:\Alcohol Data\SIM05012012\SIM05012012.0004.BND	5/1/2012 10:58:51 AM
4	0.082	78640.87	959034.9	-0.824	0.082	0.4355136	C:\Alcohol Data\SIM05012012\SIM05012012.0005.BND	5/1/2012 11:12:01 AM
5	0.202	185707.3	919343	-2.439	0.202	1.055381	C:\Alcohol Data\SIM05012012\SIM05012012.0006.BND	5/1/2012 11:30:18 AM
6	0.409	385469.5	942468.2	0.630	0.409	2.204103	C:\Alcohol Data\SIM05012012\SIM05012012.0007.BND	5/1/2012 11:44:12 AM



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012 Today's Time = 7:13:37 AM
Bound File Name = SIM05012012.0001.RAW
Sample Name = Blank
Date Taken = 5/1/2012 10:09:13 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

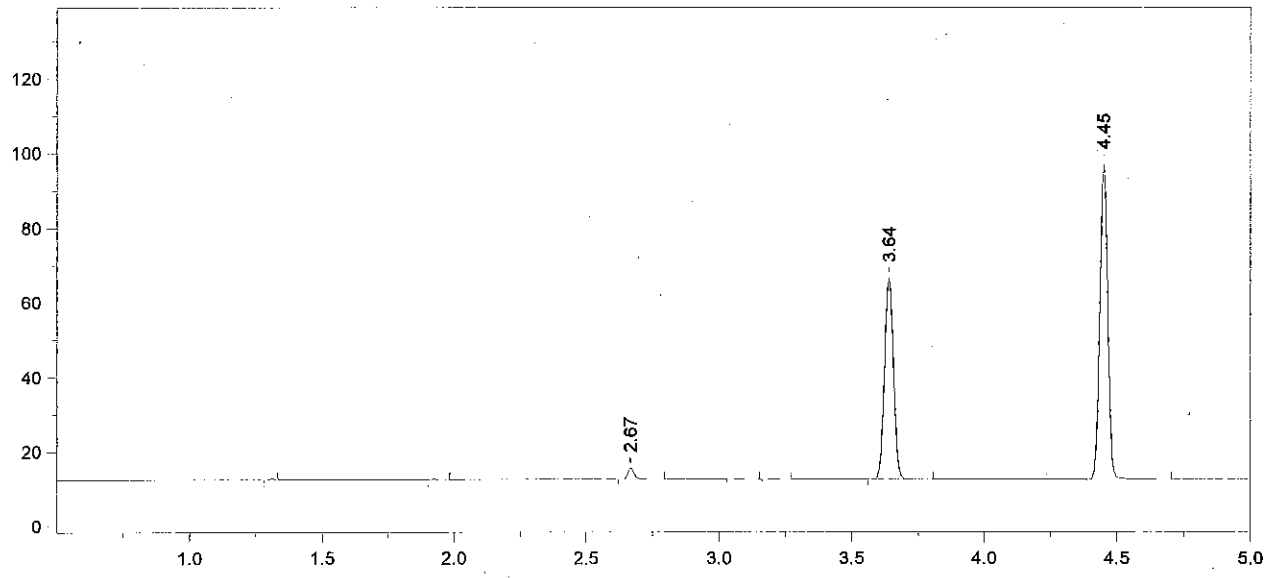
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
4	3.64	t-Butanol	127227	0.9677	0.7898
5	4.45	n-Propanol	184222	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012 Today's Time = 7:13:46 AM
Bound File Name = SIM05012012.0002.RAW
Sample Name = TMX
Date Taken = 5/1/2012 10:27:15 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

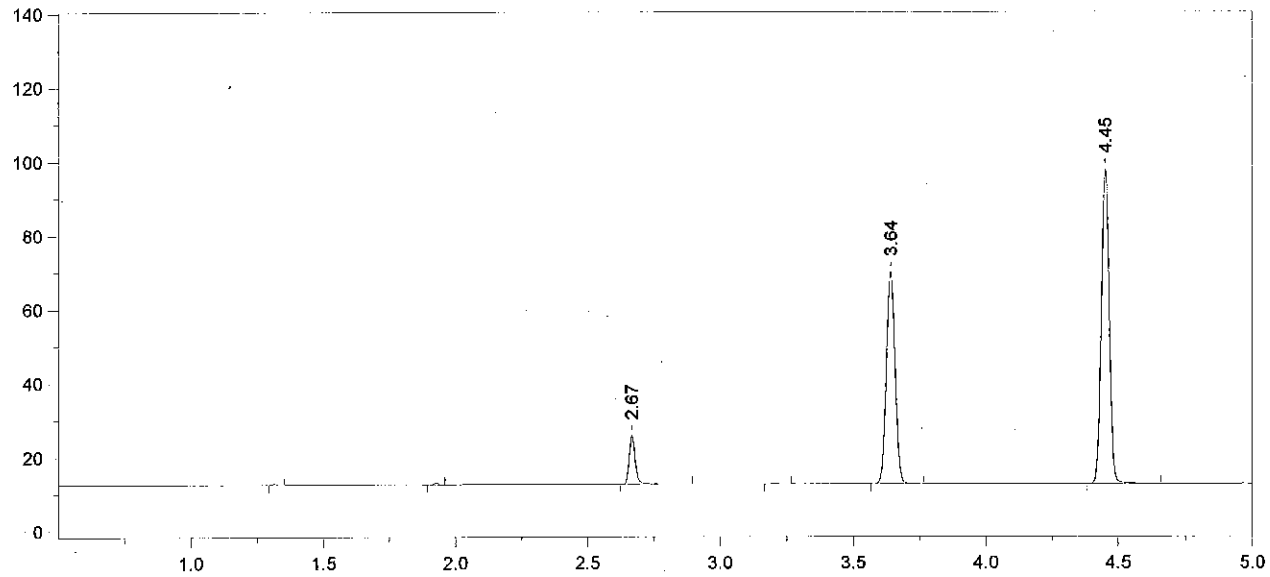
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	1.92	Acetaldehyde	22281	0.0650	0.0531
3	2.02	Methanol	38865	0.0890	0.0726
4	2.66	Ethanol	81290	0.0852	0.0696
5	3.07	Acetone	416768	0.1030	0.0841
6	3.20	Isopropanol	170941	0.0910	0.0743
7	3.64	t-Butanol	128939	1.0143	0.8279
8	4.45	n-Propanol	178112	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012
Today's Time = 7:13:55 AM
Bound File Name = SIM05012012.0003.RAW
Sample Name = STD A
Date Taken = 5/1/2012 10:41:03 AM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal
Calibration Version = 7

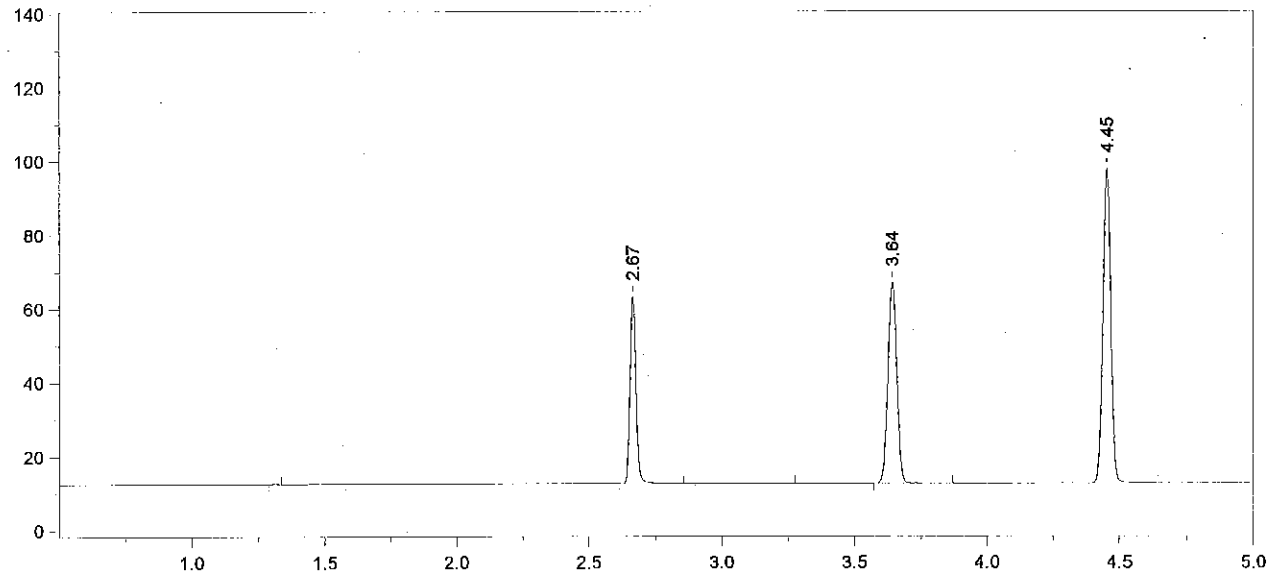
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.67	Ethanol	05194	0.0054	0.0044
6	3.64	t-Butanol	124791	0.9794	0.7994
7	4.45	n-Propanol	178536	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012
Today's Time = 7:14:05 AM
Bound File Name = SIM05012012.0004.RAW
Sample Name = STD B
Date Taken = 5/1/2012 10:58:42 AM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal
Calibration Version = 7

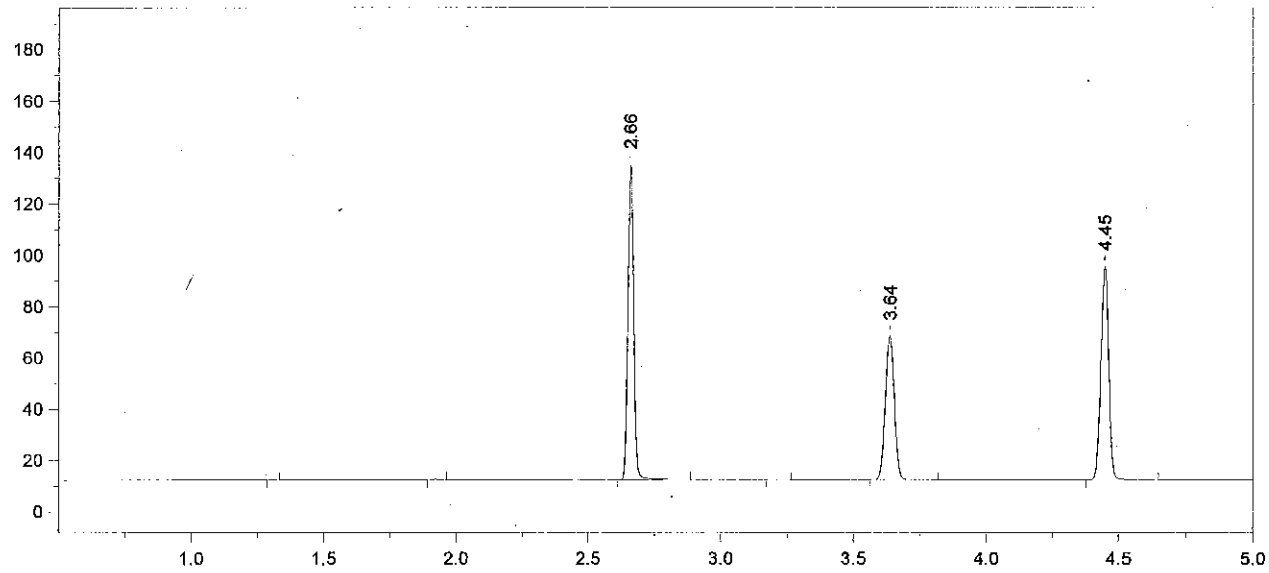
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.67	Ethanol	21169	0.0219	0.0178
5	3.64	t-Butanol	132410	1.0258	0.8372
6	4.45	n-Propanol	180866	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012 Today's Time = 7:14:14 AM
Bound File Name = SIM05012012.0005.RAW
Sample Name = STD C
Date Taken = 5/1/2012 11:11:52 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

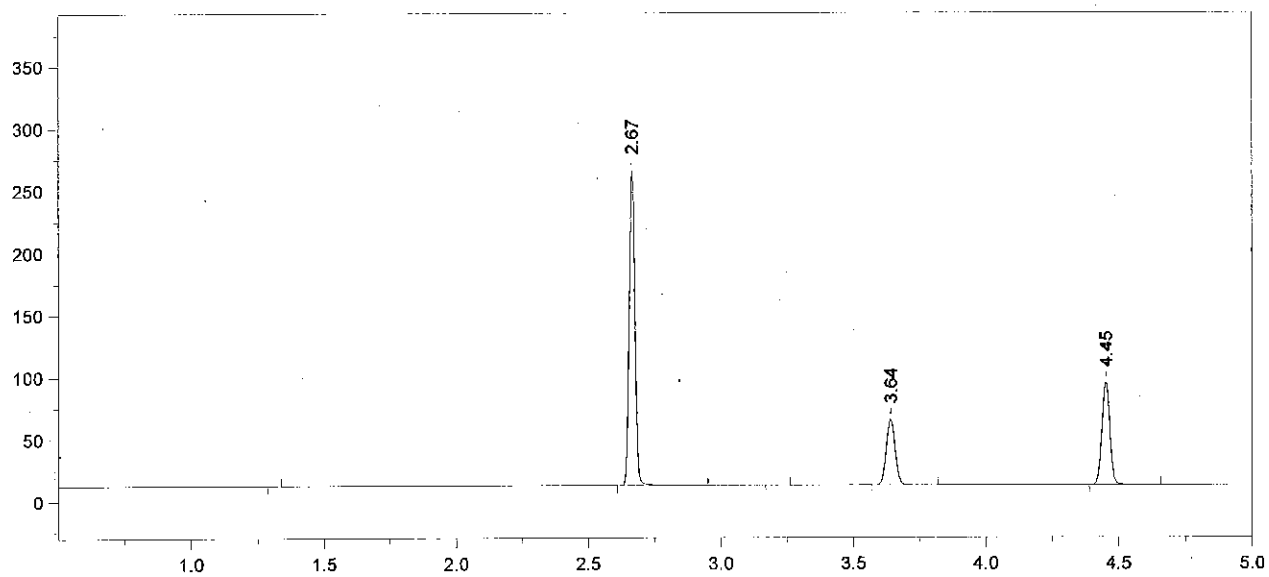
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	78641	0.0813	0.0664
4	3.64	t-Butanol	125870	0.9767	0.7972
5	4.45	n-Propanol	180570	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012 Today's Time = 7:14:23 AM
Bound File Name = SIM05012012.0006.RAW
Sample Name = STD D
Date Taken = 5/1/2012 11:30:07 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

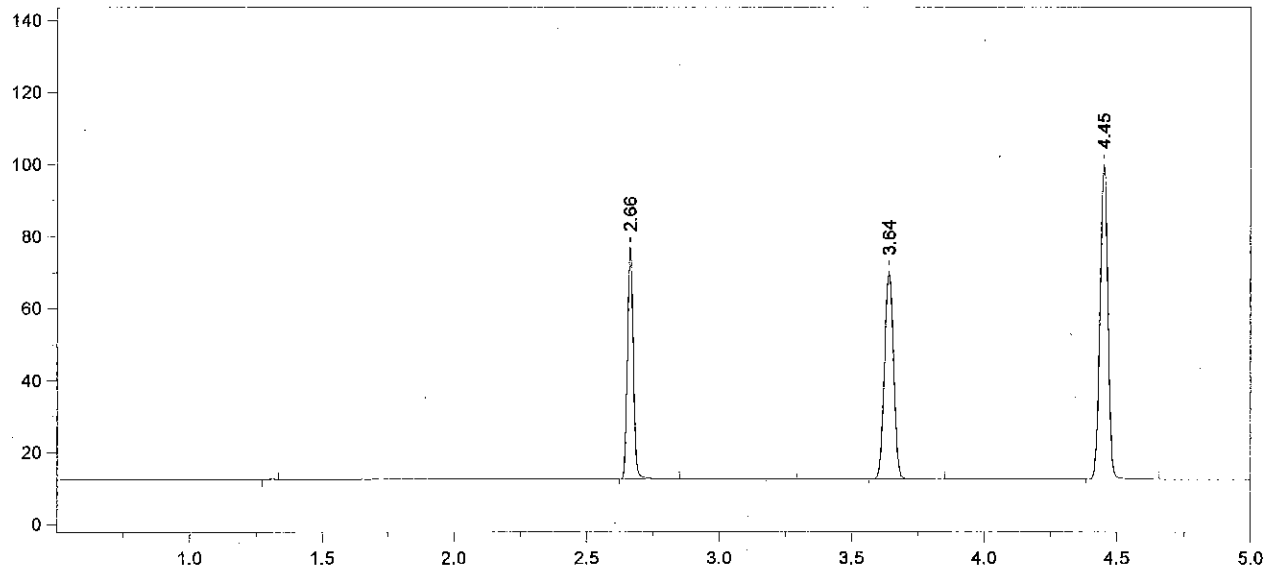
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.66	Ethanol	185707	0.1971	0.1609
5	3.64	t-Butanol	129034	1.0275	0.8386
6	4.45	n-Propanol	175962	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012 Today's Time = 7:14:31 AM
Bound File Name = SIM05012012.0007.RAW
Sample Name = STD E
Date Taken = 5/1/2012 11:44:00 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

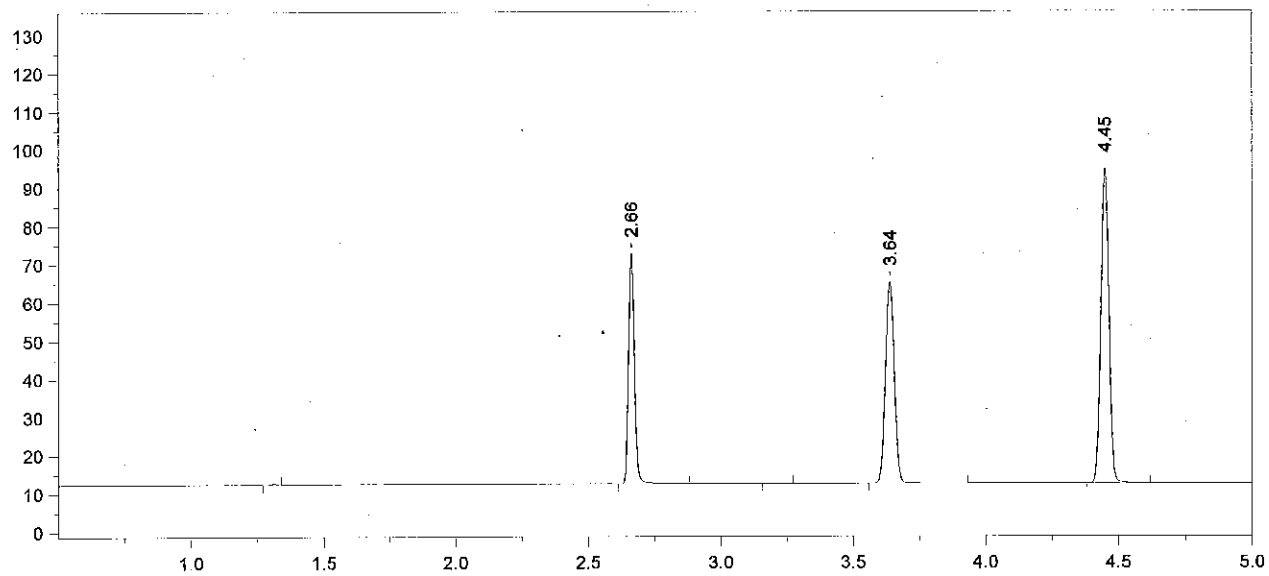
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.67	Ethanol	385470	0.4116	0.3359
4	3.64	t-Butanol	121853	0.9763	0.7968
5	4.45	n-Propanol	174887	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012 Today's Time = 7:14:59 AM
Bound File Name = SIM05012012.0008.RAW
Sample Name = AQ QC
Date Taken = 5/1/2012 11:59:50 AM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

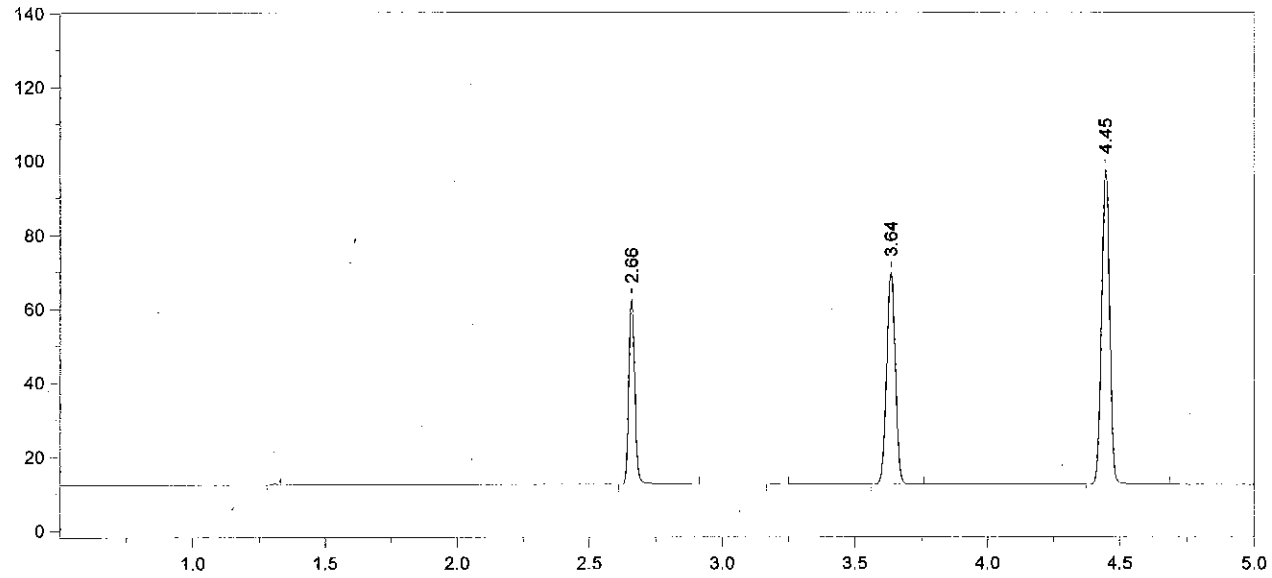
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	98380	0.0997	0.0814
4	3.64	t-Butanol	133339	1.0140	0.8277
5	4.45	n-Propanol	184246	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/3/2012 Today's Time = 7:15:08 AM
Bound File Name = SIM05012012.0009.RAW
Sample Name = AQ QC
Date Taken = 5/1/2012 12:15:31 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

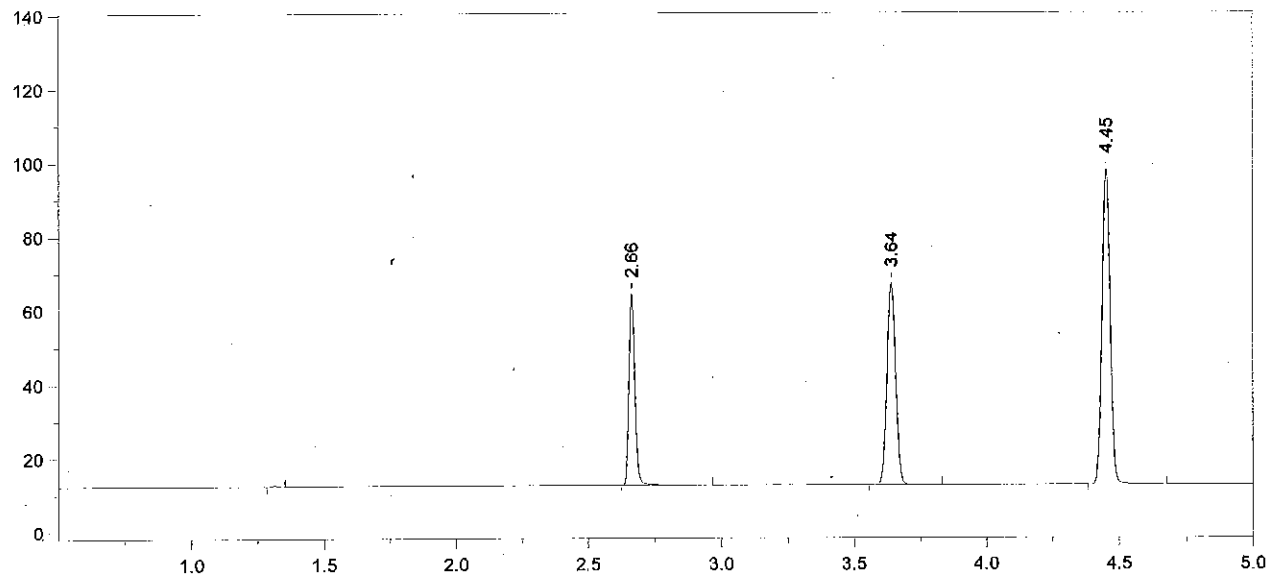
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	92791	0.0991	0.0809
4	3.64	t-Butanol	121994	0.9777	0.7980
5	4.45	n-Propanol	174834	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 12:31:32 PM
Bound File Name = SIM05012012.0010.RAW
Sample Name = CCS
Date Taken = 5/1/2012 12:31:22 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

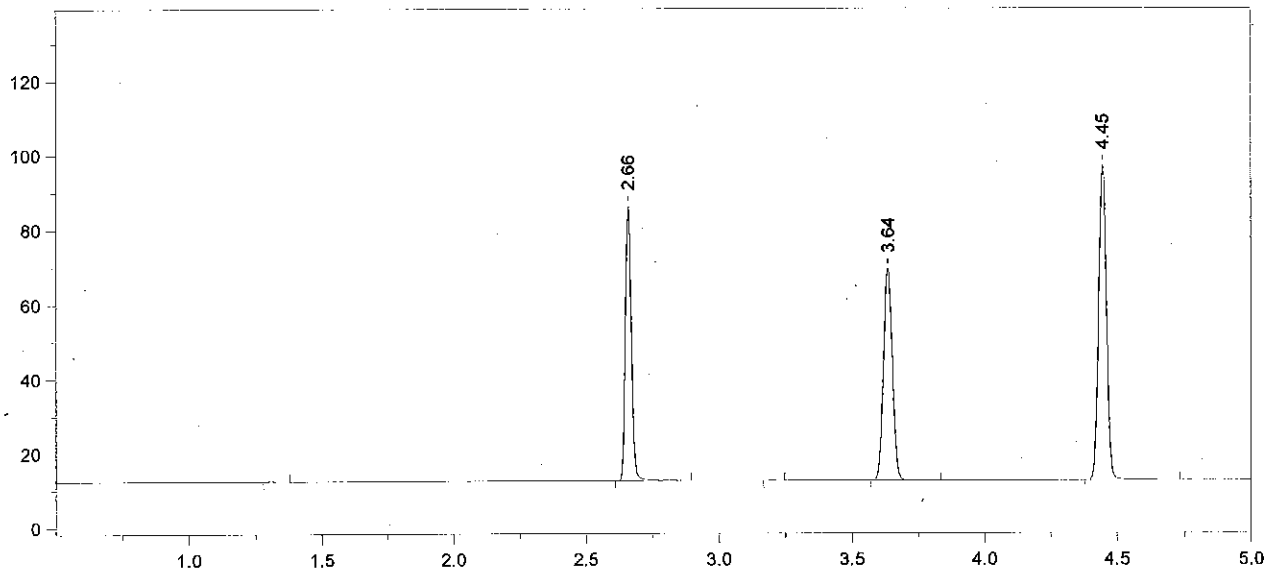
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	77961	0.0805	0.0657
4	3.64	t-Butanol	132102	1.0241	0.8359
5	4.45	n-Propanol	180746	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 12:46:02 PM
Bound File Name = SIM05012012.0011.RAW
Sample Name = CCS
Date Taken = 5/1/2012 12:45:50 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

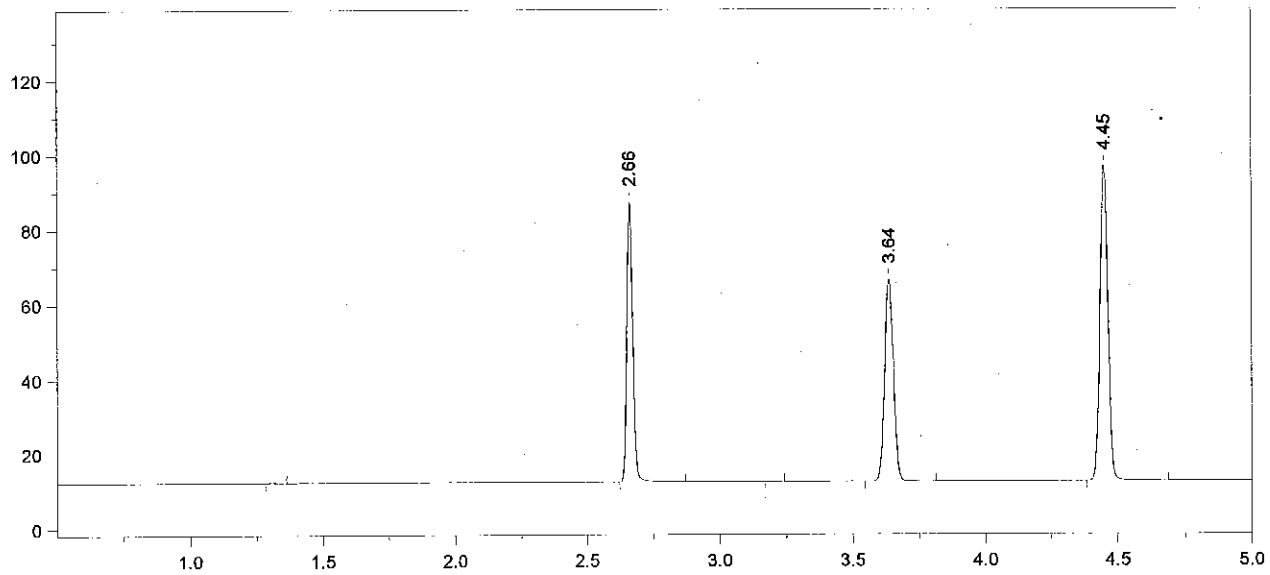
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	80200	0.0825	0.0674
3	3.64	t-Butanol	125963	0.9726	0.7939
4	4.45	n-Propanol	181465	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 1:02:56 PM
Bound File Name = SIM05012012.0012.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 5/1/2012 1:02:49 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal
Calibration Version = 7

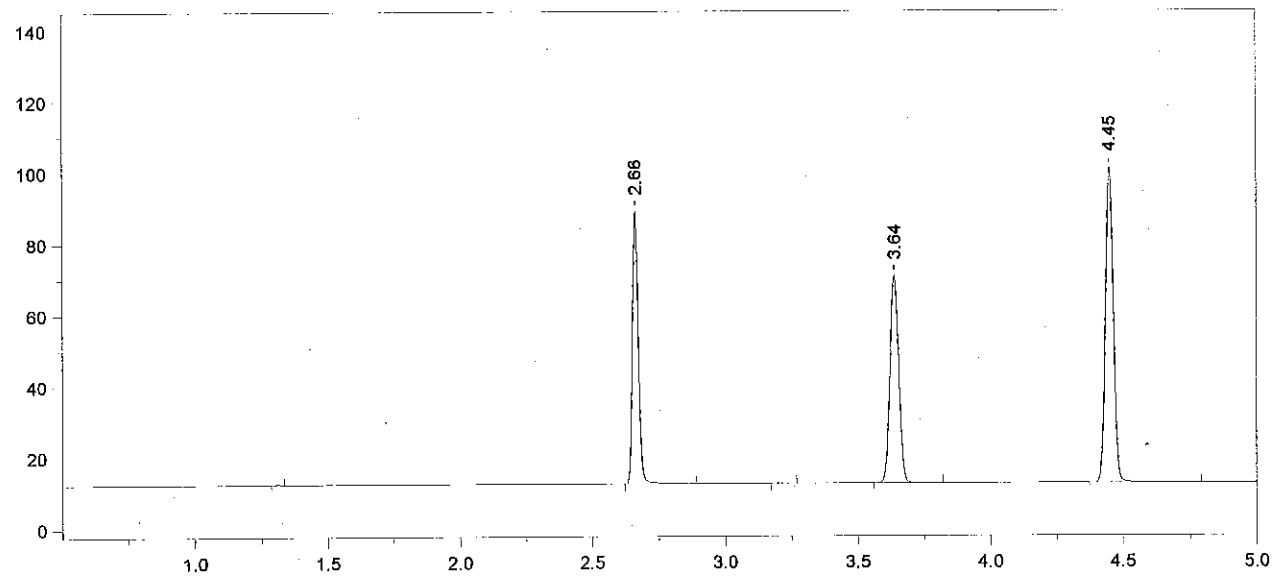
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	113683	0.1182	0.0965
4	3.64	t-Butanol	131442	1.0255	0.8370
5	4.45	n-Propanol	179593	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 1:16:43 PM
Bound File Name = SIM05012012.0013.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 5/1/2012 1:16:35 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

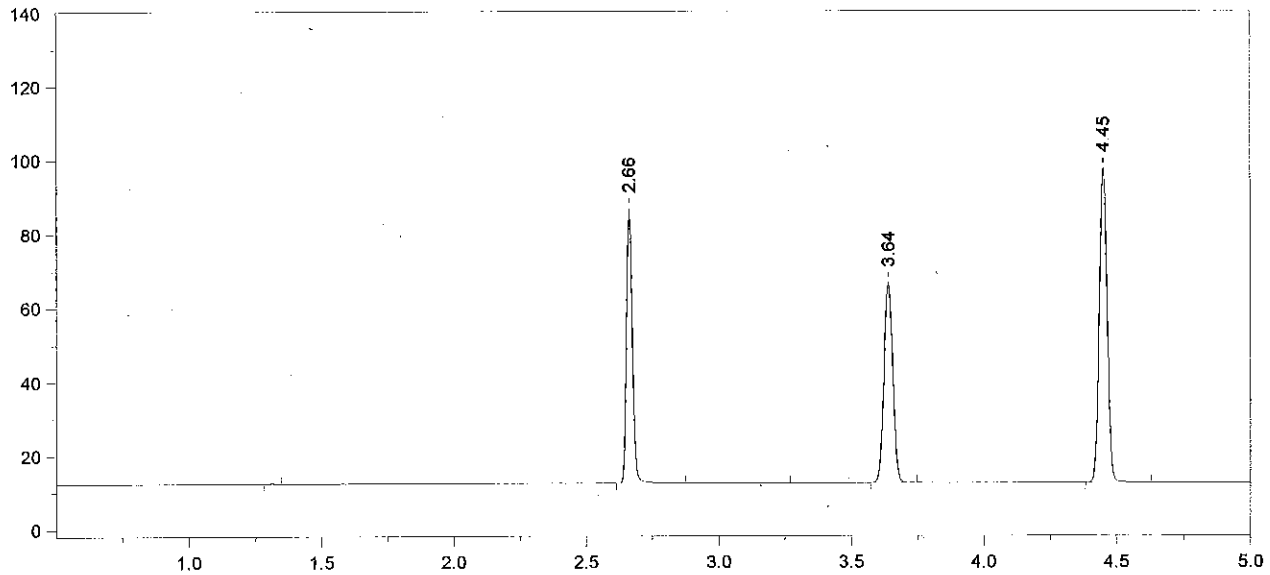
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	114665	0.1200	0.0979
4	3.64	t-Butanol	124667	0.9790	0.7991
5	4.45	n-Propanol	178428	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 1:32:45 PM
Bound File Name = SIM05012012.0014.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 5/1/2012 1:32:33 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal
Calibration Version = 7

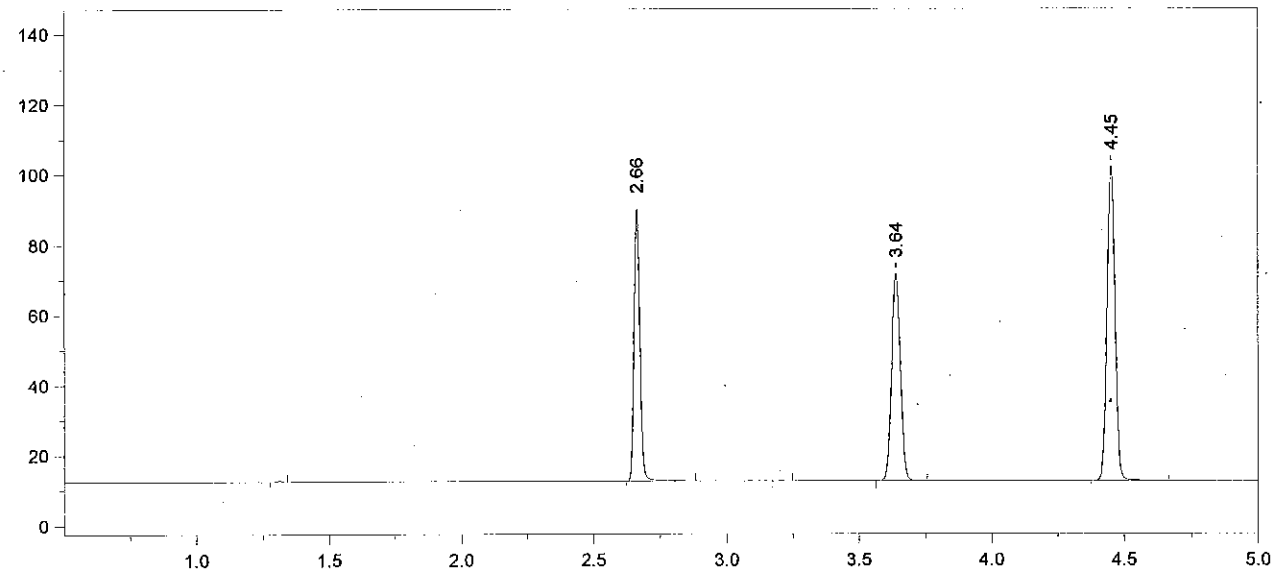
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	117524	0.1171	0.0956
4	3.64	t-Butanol	134268	1.0038	0.8193
5	4.45	n-Propanol	187414	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 1:47:34 PM
Bound File Name = SIM05012012.0015.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 5/1/2012 1:47:26 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

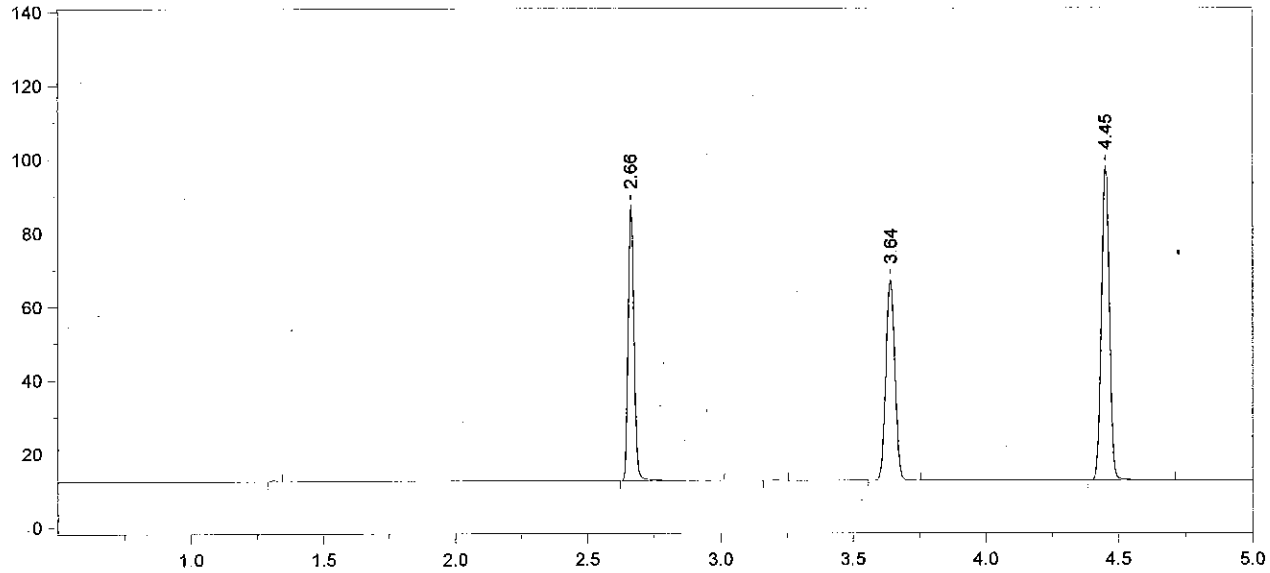
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	113509	0.1182	0.0965
4	3.64	t-Butanol	124767	0.9747	0.7955
5	4.45	n-Propanol	179366	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 2:02:25 PM
Bound File Name = SIM05012012.0016.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 5/1/2012 2:02:19 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal
Calibration Version = 7

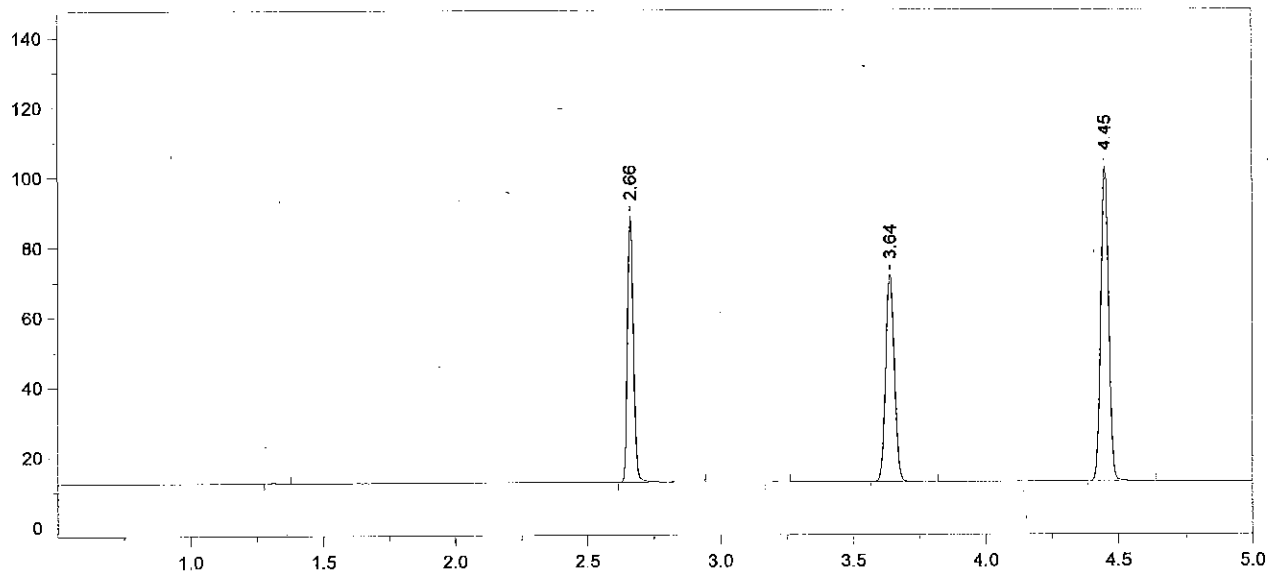
Peak Number	Ret Time (min)	Peak Name	Area	Amount %-WT/VOL	Headspace Conversion
2	2.66	Ethanol	118294	0.1164	0.0950
4	3.64	t-Butanol	136351	1.0069	0.8218
5	4.45	n-Propanol	189739	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 2:17:44 PM
Bound File Name = SIM05012012.0017.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 5/1/2012 2:17:38 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

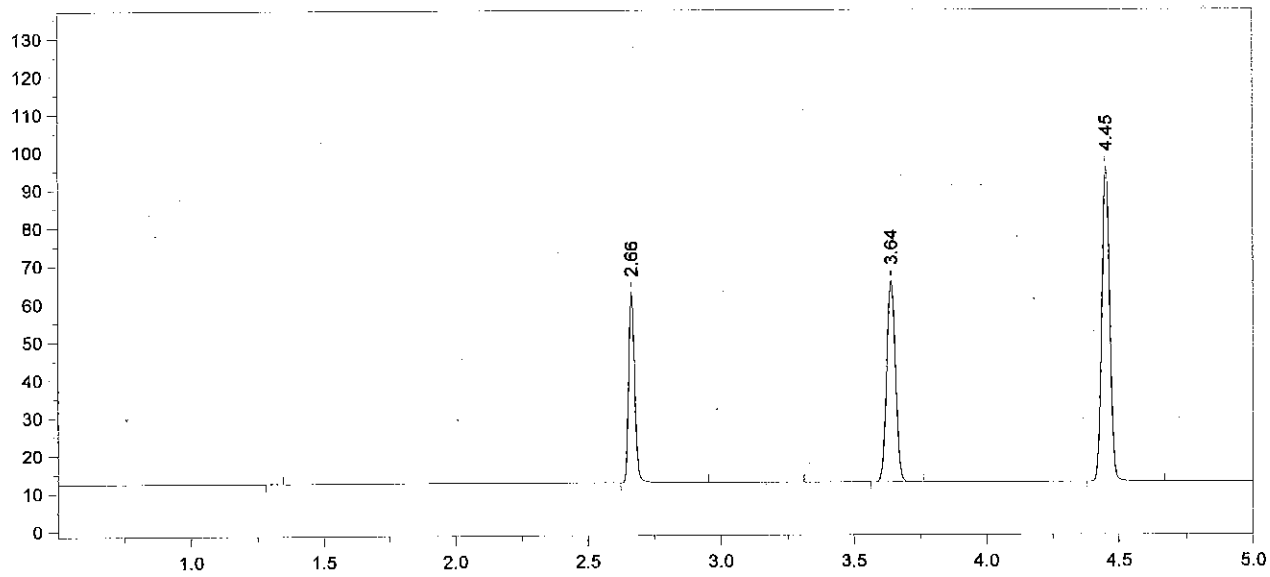
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	115066	0.1189	0.0970
4	3.64	t-Butanol	125719	0.9746	0.7954
5	4.45	n-Propanol	180753	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 2:32:22 PM
Bound File Name = SIM05012012.0018.RAW
Sample Name = 0.10 Ext Std TLC
Date Taken = 5/1/2012 2:32:11 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

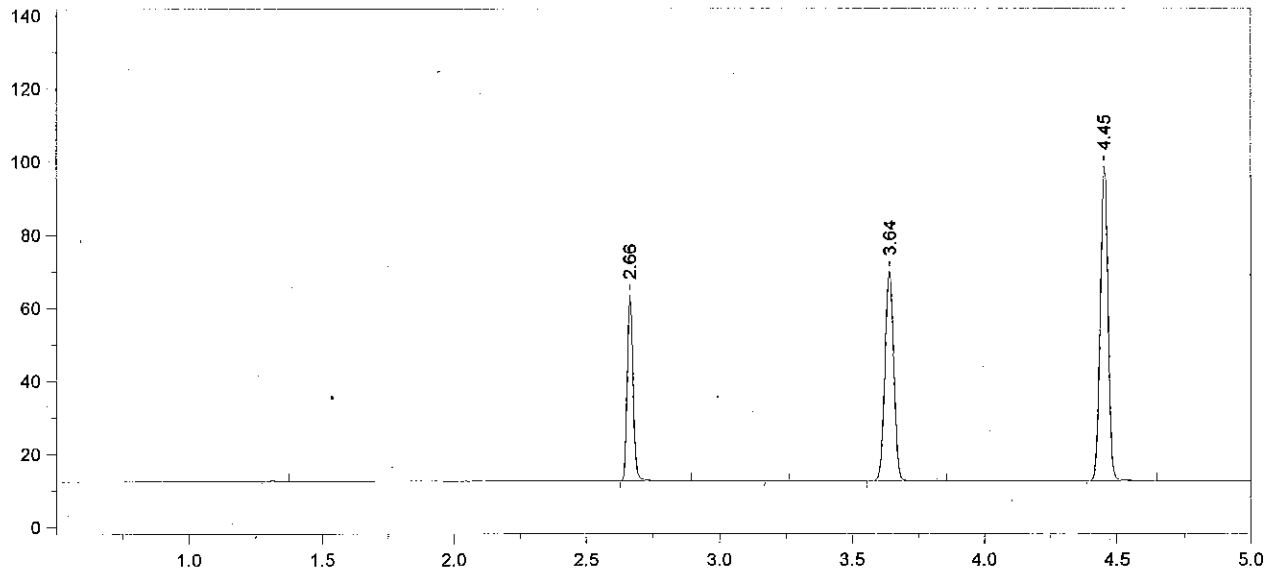
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	118023	0.1159	0.0946
4	3.64	t-Butanol	137207	1.0109	0.8251
5	4.45	n-Propanol	190188	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 2:47:51 PM
Bound File Name = SIM05012012.0019.RAW
Sample Name = CCS
Date Taken = 5/1/2012 2:47:40 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

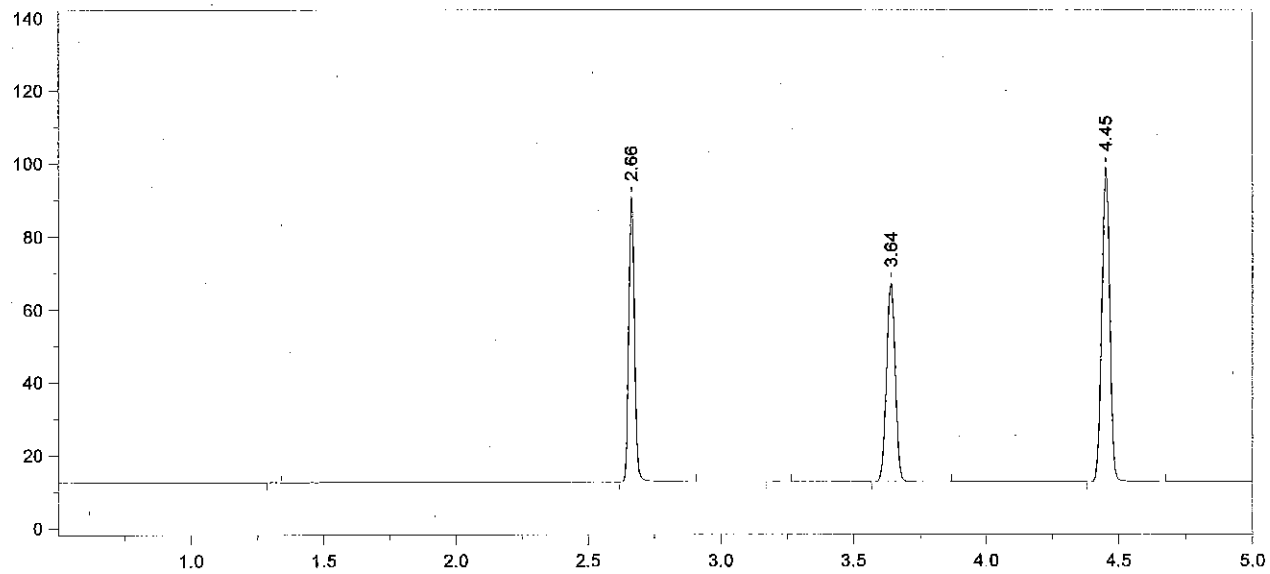
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	77977	0.0827	0.0675
4	3.64	t-Butanol	122485	0.9748	0.7956
5	4.45	n-Propanol	176068	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 3:04:06 PM
Bound File Name = SIM05012012.0020.RAW
Sample Name = CCS
Date Taken = 5/1/2012 3:04:00 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

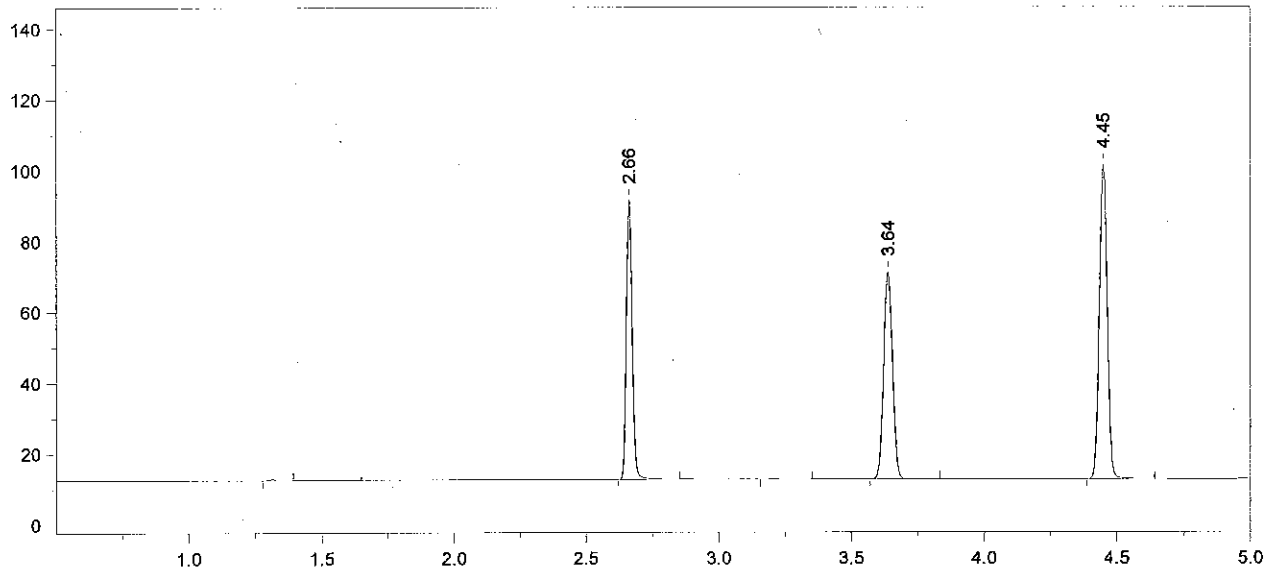
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	78329	0.0804 ✓	0.0656
4	3.64	t-Butanol	132295	1.0189	0.8316
5	4.45	n-Propanol	181935	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 3:17:36 PM
Bound File Name = SIM05012012.0021.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 5/1/2012 3:17:26 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

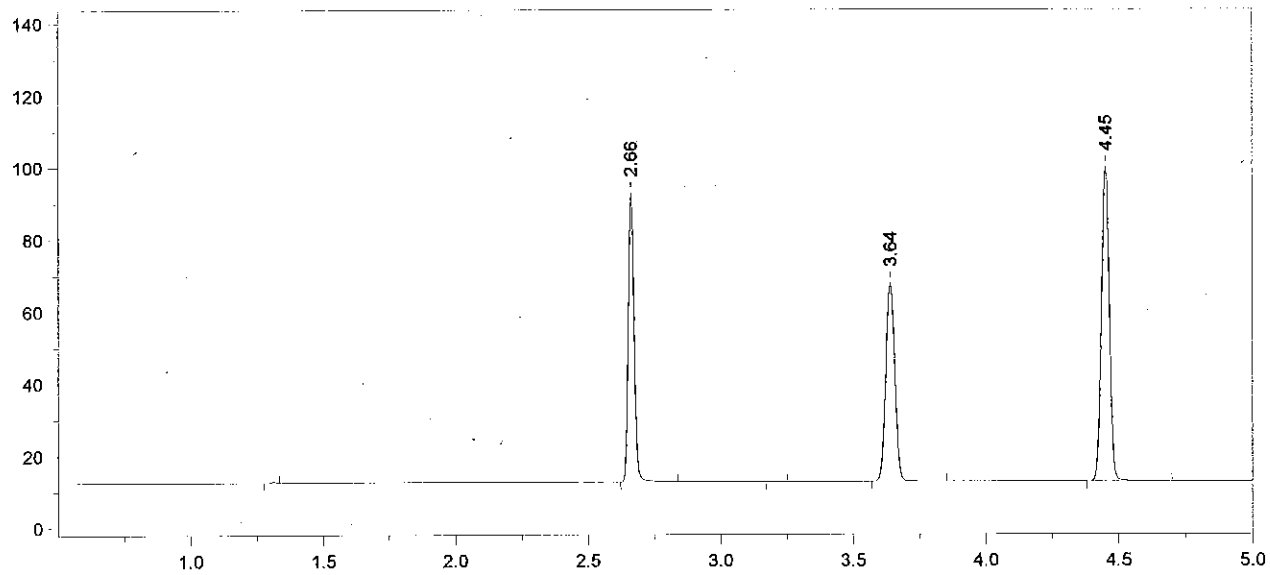
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	119722	0.1224	0.0999
4	3.64	t-Butanol	125704	0.9645	0.7872
5	4.45	n-Propanol	182618	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 3:33:51 PM
Bound File Name = SIM05012012.0022.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 5/1/2012 3:33:44 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

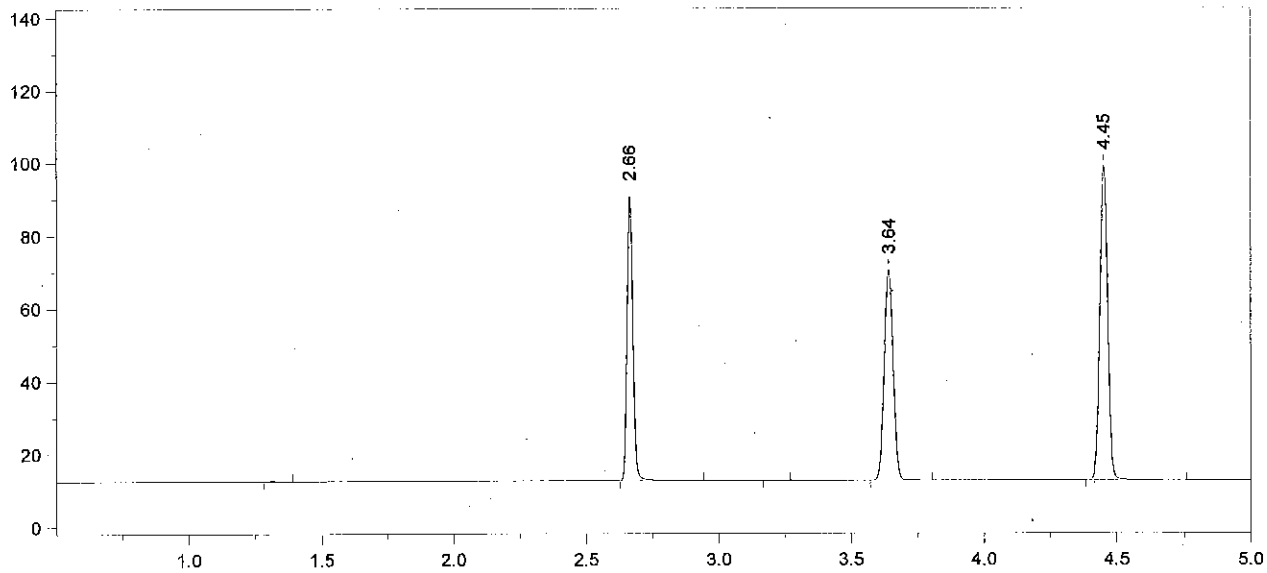
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	121010	0.1207	0.0985
4	3.64	t-Butanol	135160	1.0118	0.8258
5	4.45	n-Propanol	187175	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 3:49:18 PM
Bound File Name = SIM05012012.0023.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 5/1/2012 3:49:08 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

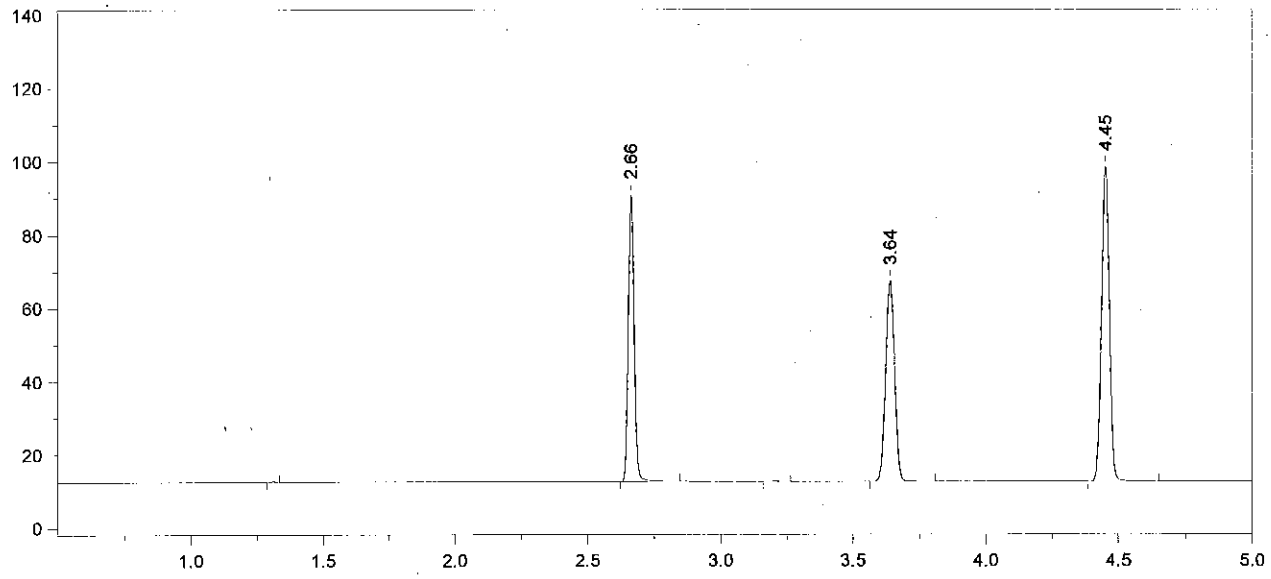
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	122445	0.1236	0.1009
4	3.64	t-Butanol	127345	0.9649	0.7876
5	4.45	n-Propanol	184918	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 4:05:30 PM
Bound File Name = SIM05012012.0024.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 5/1/2012 4:05:19 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

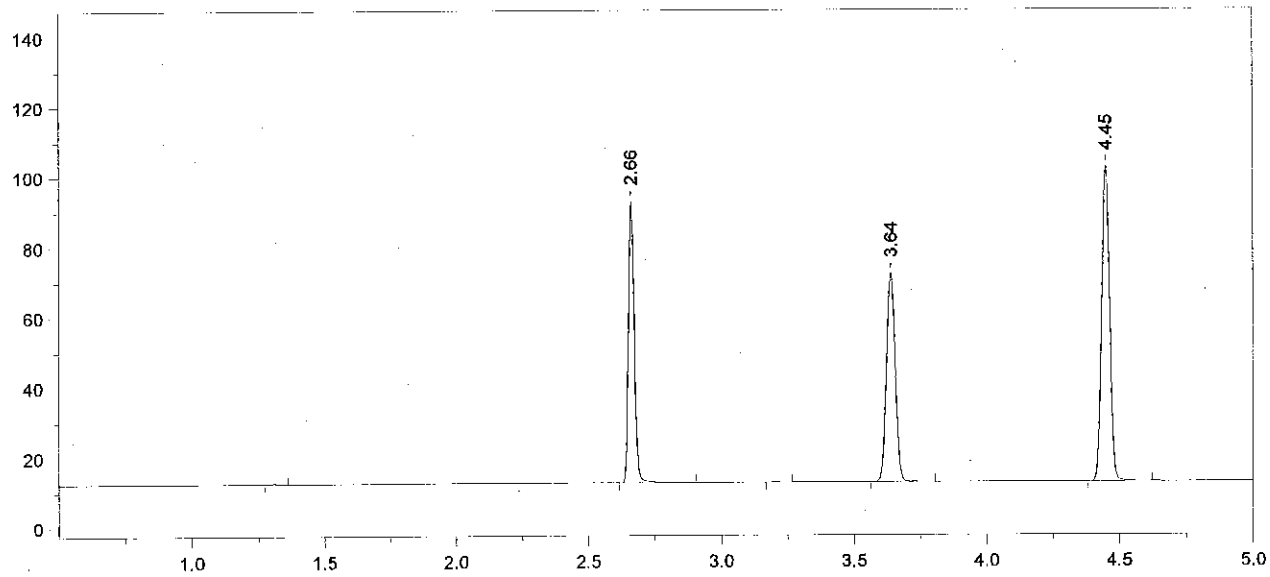
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	120013	0.1219	0.0995
4	3.64	t-Butanol	133184	1.0154	0.8288
5	4.45	n-Propanol	183788	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 4:19:26 PM
Bound File Name = SIM05012012.0025.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 5/1/2012 4:19:15 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal
Calibration Version = 7

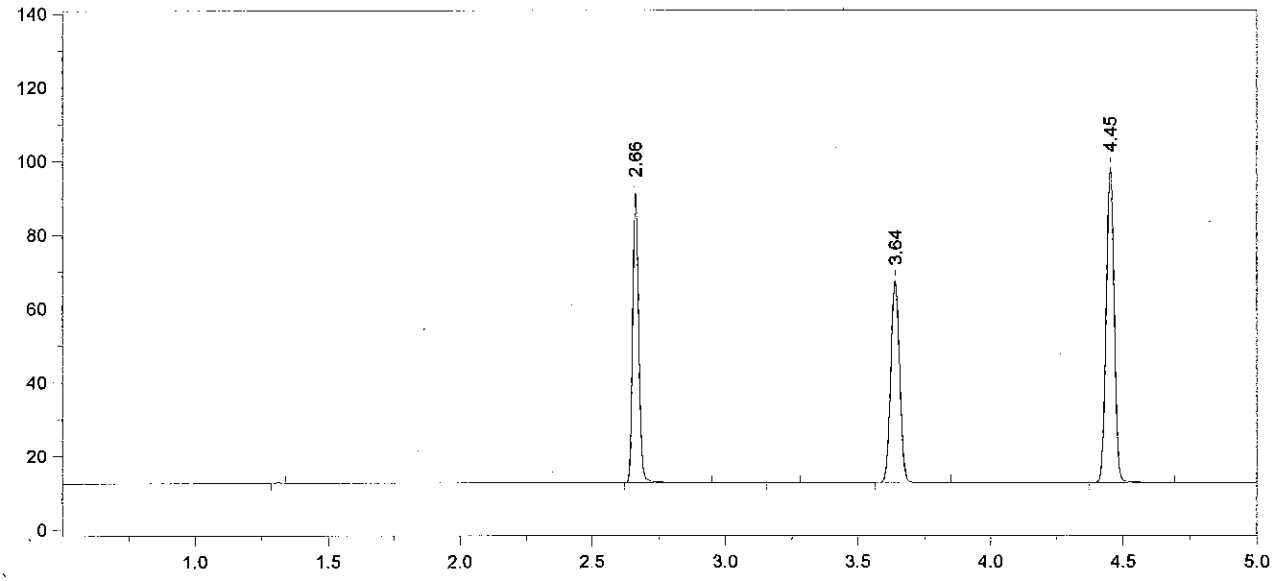
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	119664	0.1231	0.1005
4	3.64	t-Butanol	126154	0.9738	0.7948
5	4.45	n-Propanol	181529	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012
Today's Time = 4:35:13 PM
Bound File Name = SIM05012012.0026.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 5/1/2012 4:35:03 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal
Calibration Version = 7

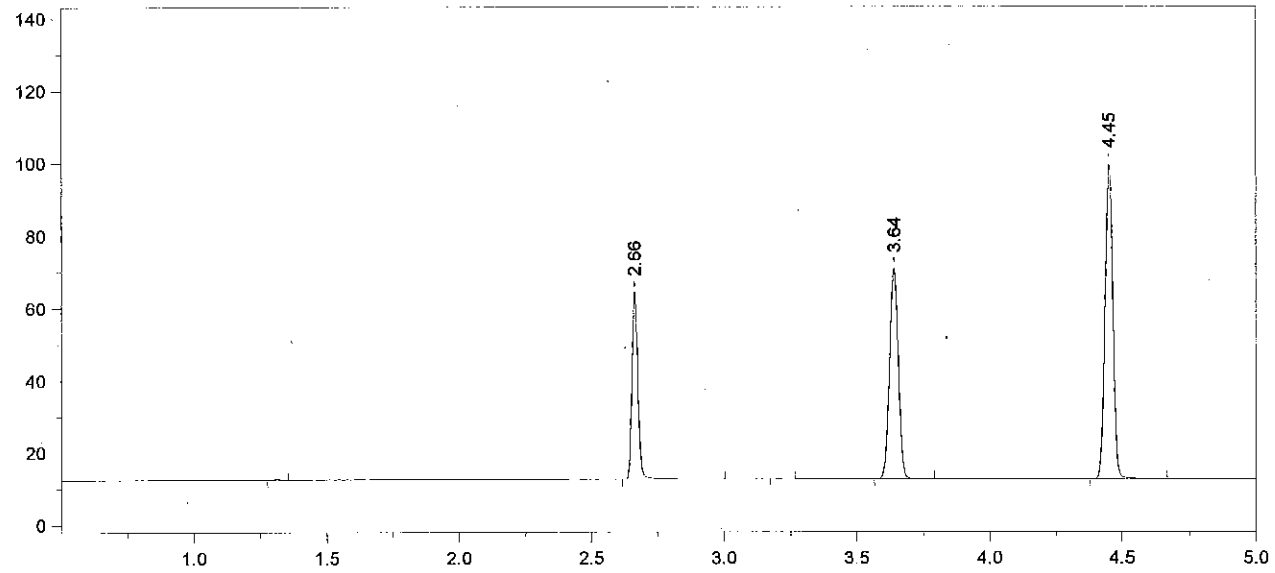
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	123091	0.1211	0.0988
4	3.64	t-Butanol	137155	1.0126	0.8264
5	4.45	n-Propanol	189796	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 4:50:34 PM
Bound File Name = SIM05012012.0027.RAW
Sample Name = 0.10 Ext Std ALB
Date Taken = 5/1/2012 4:50:26 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

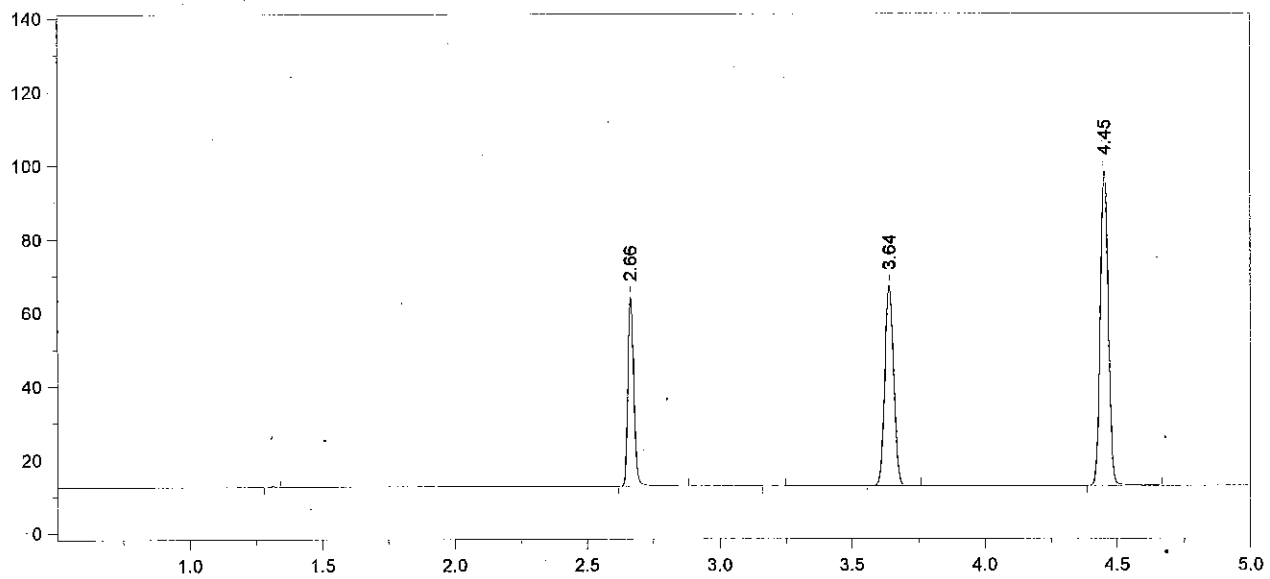
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	120457	0.1239	0.1011
4	3.64	t-Butanol	126213	0.9740	0.7950
5	4.45	n-Propanol	181559	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 5:06:42 PM
Bound File Name = SIM05012012.0028.RAW
Sample Name = CCS
Date Taken = 5/1/2012 5:06:32 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	79945	0.0810	0.0661
4	3.64	t-Butanol	134116	1.0198	0.8324
5	4.45	n-Propanol	184273	1.0000	0.8162



Format File Name = simsoln-JFH.met.FMT

Today's Date = 5/1/2012 Today's Time = 5:21:02 PM
Bound File Name = SIM05012012.0029.RAW
Sample Name = CCS
Date Taken = 5/1/2012 5:20:50 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = SimCal 05012012.cal Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	80061	0.0824	0.0673
4	3.64	t-Butanol	125621	0.9702	0.7918
5	4.45	n-Propanol	181430	1.0000	0.8162