VERMONT FORENSIC LABORATORY

103 South Main Street
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WATERBURY, VERMONT 05676-0047
TEL: 802-244-8788
FAX: 802-241-5557
http://vfl.vermont.gov

Certificate of Analysis of DataMaster External Standard Solution

On 3/25/2016, an ethanol solution was prepared by ~~Amanda Bolduc~~ Jeffrey Devine DG 4/11/16 for use as a DataMaster External Standard solution. The solution was prepared per standard laboratory practice and assigned the lot number 16-04-100 and an expiration date of 3/25/2017.

On 3/28/2016 and 3/29/2016, the solution was analyzed against calibration VFL03282016.CAL and VFL03292016.CAL. 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 this 13TH day of APRIL, 2016.

~~Amanda Bolduc~~ DG 4/11/16
DAVID PATLAK

DataMaster External Standard Solution
Lot # 16-04-100 EtOHaq Conc: 0.098
Range: 0.093 - 0.103
Preparation Date: 3/25/2016 Expires: 3/25/2017

OPENED:

VERMONT FORENSIC LABORATORY

SIMULATOR SOLUTION REVIEW CHECKLIST

SOLUTION TYPE AND VOLUME: 0.100 EXTERNAL STANDARD 20L

LOT NUMBER#: 16-04-100 **ANALYST:** [illegible]

TECHNICAL REVIEWER: [illegible] **DATE:** 4/11/16

- [x] QC done and complete?
- [x] Pertinent standard lot numbers listed?
- [x] Data package complete?
- [x] Transcribed data and calculations verified?
- [x] Calibration and control results all within ± 10% (± 20% for Std A) of the known values?
- [x] Calibration line correlation factor at least 0.99xx?
- [x] Average error for components of the calibration line less than 10%?
- [x] Timing mix chromatogram demonstrates appropriate identification of components and separation from ethanol?
- [x] Surrogate compound concentrations all within 0.900 to 1.100 range, inclusive?
- [x] Statistical means of the continuing calibration check sample duplicate analysis all within +/- 10% of the known value?
- [x] Calculated average within acceptable range of the target concentration for specific solution type?
- [x] All individual readings within 3 standard deviations of the average for each run and for the total average?
- [x] RPD <10%?

Comments:

ADMINISTRATIVE REVIEWER: [illegible] **DATE:** 4/12/2016

- [x] Are all pages numbered and initialed on the Examination Documents?
- [x] Solution lot number written on all pages?
- [x] Is the Reagent Preparation Log filled out properly?
- [x] Is the Certificate of Analysis filled out properly?
- [x] Has a label sheet been created, and is it correct?

Comments:

Check Mark or X = pass, NA= Not Applicable

VERMONT FORENSIC LABORATORY
Simulator Solution Worksheet

0.100 External Standard Solution 20L
Lot # 16-04-100
Prepared 3/25/2016 by JSD
Exp 3/25/2017

DJP Cal VFL03282016.cal
JSD/DJP Vials
Analyzed on 3/28/2016

0.0972	DJP
0.0981	
0.0997	
0.0994	
0.0982	
0.0991	
0.0989	
0.0998	JSD
0.0983	
0.0990	
0.0996	
0.1006	
0.0995	
0.1007	

Ave. =	0.0992
Std Dev. =	0.0010
Min. =	0.0972
Max. =	0.1007

AQ QC Manf.	Cerilliant
AQ QC Lot #	FN05211402
Cal Std A Lot #	FN01131401
Cal Std B Lot #	FN08101401
Cal Std C Lot #	~~FN06231406~~ FN09051304 DS 4/12/16
Cal Std D Lot #	FN12011401
Cal Std E Lot #	FN11191402
Int Std Lot #	IS-12232015
TMX Lot #	TMX-08142015
BLANK LOT #	BL-12302015

DJP Cal VFL03292016.cal
JSD/DJP Vials
Analyzed on 3/29/2016

0.0982	DJP
0.0989	
0.0982	
0.0988	
0.0975	
0.0992	
0.0979	
0.0973	JSD
0.0971	
0.0981	
0.0971	
0.0992	
0.0982	
0.0974	

Ave. =	0.0981
Std Dev. =	0.0007
Min. =	0.0971
Max. =	0.0992

AQ QC Manf.	Cerilliant
AQ QC Lot #	FN05211402
Cal Std A Lot #	FN01131401
Cal Std B Lot #	FN08101401
Cal Std C Lot #	~~FN06231406~~ FN09051304 DS 4/12/16
Cal Std D Lot #	FN12011401
Cal Std E Lot #	FN11191402
Int Std Lot #	IS-12232015
TMX Lot #	TMX-08142015
BLANK LOT #	BL-12302015

DS 4/11/16

Total Values from Both Runs

Average	Mean
0.0972	0.0971
0.0981	
0.0997	0.0972
0.0994	0.0973
0.0982	0.0974
0.0991	0.0975
0.0989	0.0979
0.0998	0.0981
0.0983	
0.0990	0.0982
0.0996	
0.1006	
0.0995	
0.1007	0.0983
0.0982	0.0988
0.0989	0.0989
0.0982	
0.0988	0.0990
0.0975	0.0991
0.0992	0.0992
0.0979	
0.0973	0.0994
0.0971	0.0995
0.0981	0.0996
0.0971	0.0997
0.0992	0.0998
0.0982	0.1006
0.0974	0.1007

Ave. =	0.0986
Avg Std Dev. =	0.0010
Mean =	0.0987
Mean Std Dev. =	0.0011
Min. =	0.0971
Max =	0.1007
RPD =	3.65%

File Name = C:\Alcohol Data\VFL03292016\VFL03292016.SEQ
Version = 1
File Date = 3/29/2016 2:57:23 PM

Entry #	Raw File Name	Method File Name	Sample Name	Sample Wt.	Int. Std. Amount
1	VFL03292016.0001.raw	Blood Alc temp VFL.MET	BLANK	1.00	1.00
2	VFL03292016.0002.raw	Blood Alc temp VFL.MET	TMX	1.00	1.00
3	VFL03292016.0003.raw	Blood Alc temp VFL.MET	STD A	1.00	1.00
4	VFL03292016.0004.raw	Blood Alc temp VFL.MET	STD B	1.00	1.00
5	VFL03292016.0005.raw	Blood Alc temp VFL.MET	STD C	1.00	1.00
6	VFL03292016.0006.raw	Blood Alc temp VFL.MET	STD D	1.00	1.00
7	VFL03292016.0007.raw	Blood Alc temp VFL.MET	STD E	1.00	1.00
8	VFL03292016.0008.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
9	VFL03292016.0009.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
10	VFL03292016.0010.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
11	VFL03292016.0011.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
12	VFL03292016.0012.raw	simsoln.met	0.1 DP	1.00	1.00
13	VFL03292016.0013.raw	simsoln.met	0.1 DP	1.00	1.00
14	VFL03292016.0014.raw	simsoln.met	0.1 DP	1.00	1.00
15	VFL03292016.0015.raw	simsoln.met	0.1 DP	1.00	1.00
16	VFL03292016.0016.raw	simsoln.met	0.1 DP	1.00	1.00
17	VFL03292016.0017.raw	simsoln.met	0.1 DP	1.00	1.00
18	VFL03292016.0018.raw	simsoln.met	0.1 DP	1.00	1.00
19	VFL03292016.0019.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
20	VFL03292016.0020.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
21	VFL03292016.0021.raw	simsoln.met	0.1 JD	1.00	1.00
22	VFL03292016.0022.raw	simsoln.met	0.1 JD	1.00	1.00
23	VFL03292016.0023.raw	simsoln.met	0.1 JD	1.00	1.00
24	VFL03292016.0024.raw	simsoln.met	0.1 JD	1.00	1.00
25	VFL03292016.0025.raw	simsoln.met	0.1 JD	1.00	1.00
26	VFL03292016.0026.raw	simsoln.met	0.1 JD	1.00	1.00
27	VFL03292016.0027.raw	simsoln.met	0.1 JD	1.00	1.00
28	VFL03292016.0028.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
29	VFL03292016.0029.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00

File Name: C:\Methods\VFL03292016.CAL
Version: 7

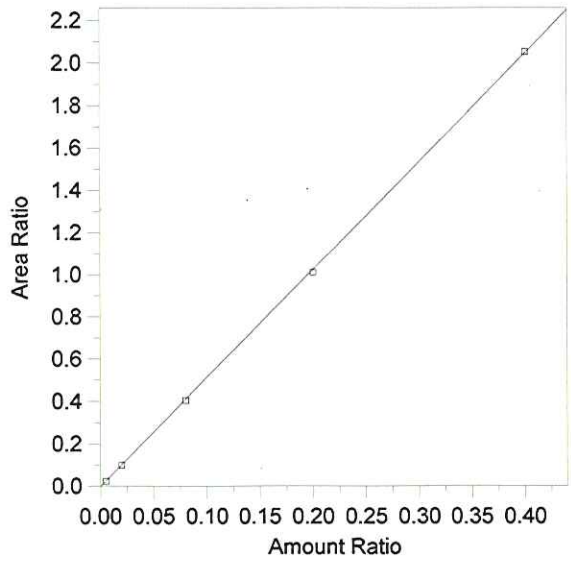
Creator:
Description:
Reason for change:

Internal standard calibration
No injection volume correction
No sample weight correction
Area reject threshold: 1500
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:	2.656 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 = 5.112452 X + 0

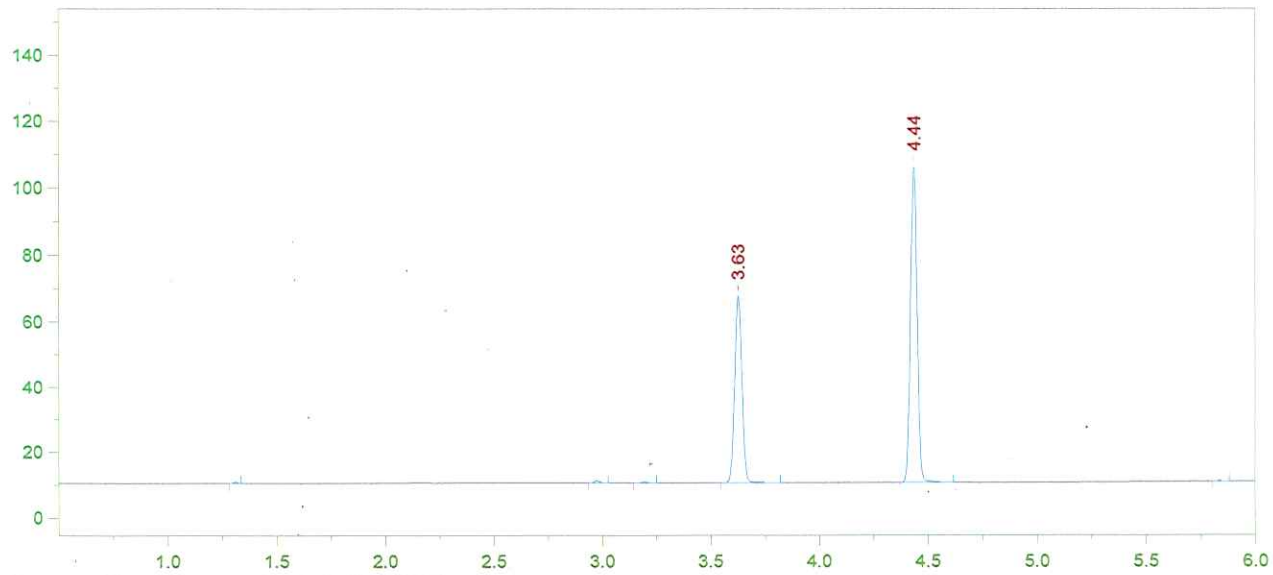
Linear fit with equal weighting, forced to origin

Coefficient of determination:	0.9999121
Average error:	1.696%
Average CF:	5.03319
RSD:	1.338%

Level	Amount	Response	Cal Factor	Error, %	Amount Ratio	Response Ratio	Source	Date and time
1	(0.078)	(85146)	--	--	0.078	85146	Manual	8/18/2015 8:39:13 AM
2	0.005	4601.052	920210.4	-2.861	0.005	2.483098E-02	C:\Alcohol Data\VFL03292016\VFL03292016.0003.BND	3/29/2016 4:05:43 PM
3	0.02	20315.04	1015752	-2.730	0.02	9.945764E-02	C:\Alcohol Data\VFL03292016\VFL03292016.0004.BND	3/29/2016 4:22:06 PM
4	0.08	79013.9	987673.8	-1.304	0.08	0.4036635	C:\Alcohol Data\VFL03292016\VFL03292016.0005.BND	3/29/2016 4:36:46 PM
5	0.2	209778.2	1048891	-1.222	0.2	1.009993	C:\Alcohol Data\VFL03292016\VFL03292016.0006.BND	3/29/2016 4:53:31 PM
6	0.4	384062.5	960156.3	0.365	0.4	2.052445	C:\Alcohol Data\VFL03292016\VFL03292016.0007.BND	3/29/2016 5:06:49 PM

16-04-100

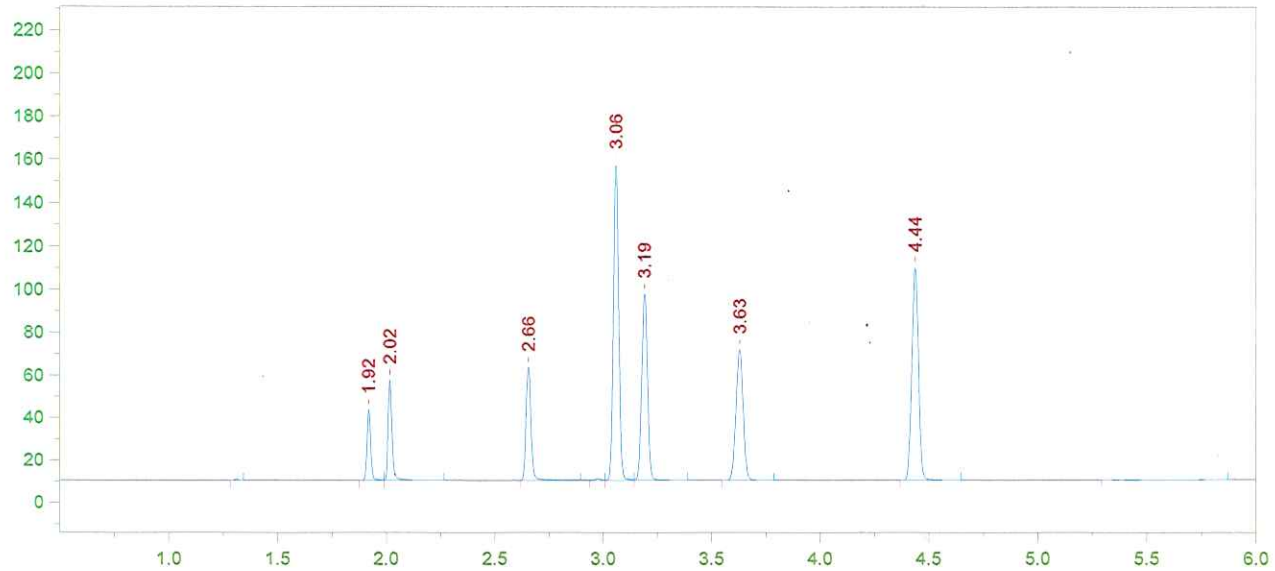
3



Format File Name = AlcoholVFL.FMT

Today's Date = 4/11/2016
Today's Time = 8:43:58 AM
Bound File Name = VFL03292016.0001.RAW
Sample Name = BLANK
Date Taken = 3/29/2016 3:34:16 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
4	3.63	t-Butanol	131758	0.9908
5	4.44	n-Propanol	202304	1.0000



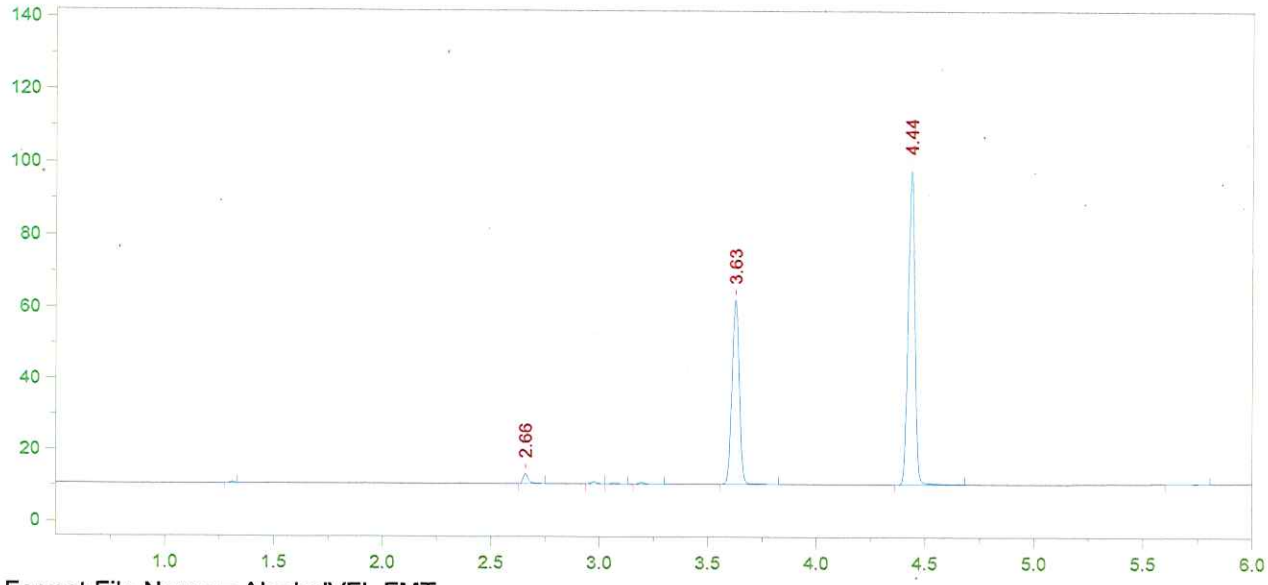
Format File Name = AlcoholVFL.FMT

Today's Date = 4/11/2016
Today's Time = 8:44:07 AM
Bound File Name = VFL03292016.0002.RAW
Sample Name = TMX
Date Taken = 3/29/2016 3:50:37 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	1.92	Acetaldehyde	38836	0.0686
3	2.02	Methanol	59040	0.1169
4	2.66	Ethanol	83260	0.0773
6	3.06	Acetone	250573	0.0612
7	3.19	Isopropanol	163863	0.0780
8	3.63	t-Butanol	141049	1.0185
9	4.44	n-Propanol	210663	1.0000

16-04-100

5



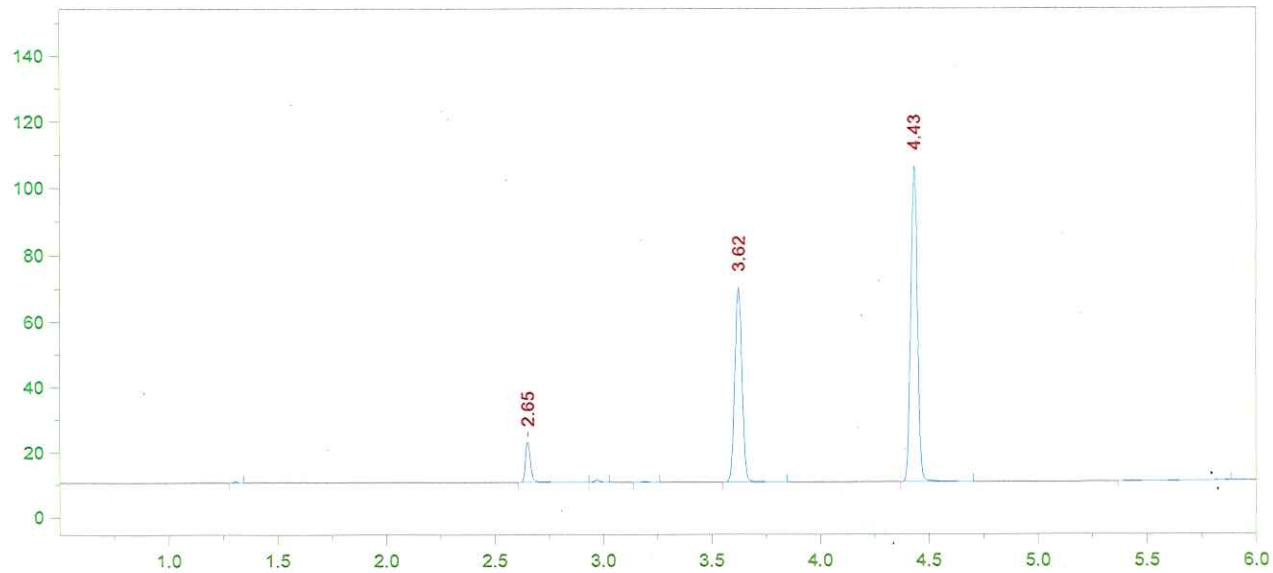
Format File Name = AlcoholVFL.FMT

Today's Date = 4/11/2016
Today's Time = 8:44:12 AM
Bound File Name = VFL03292016.0003.RAW
Sample Name = STD A
Date Taken = 3/29/2016 4:05:38 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	04601	0.0049
6	3.63	t-Butanol	119664	0.9824
7	4.44	n-Propanol	185295	1.0000

16-04-100

6

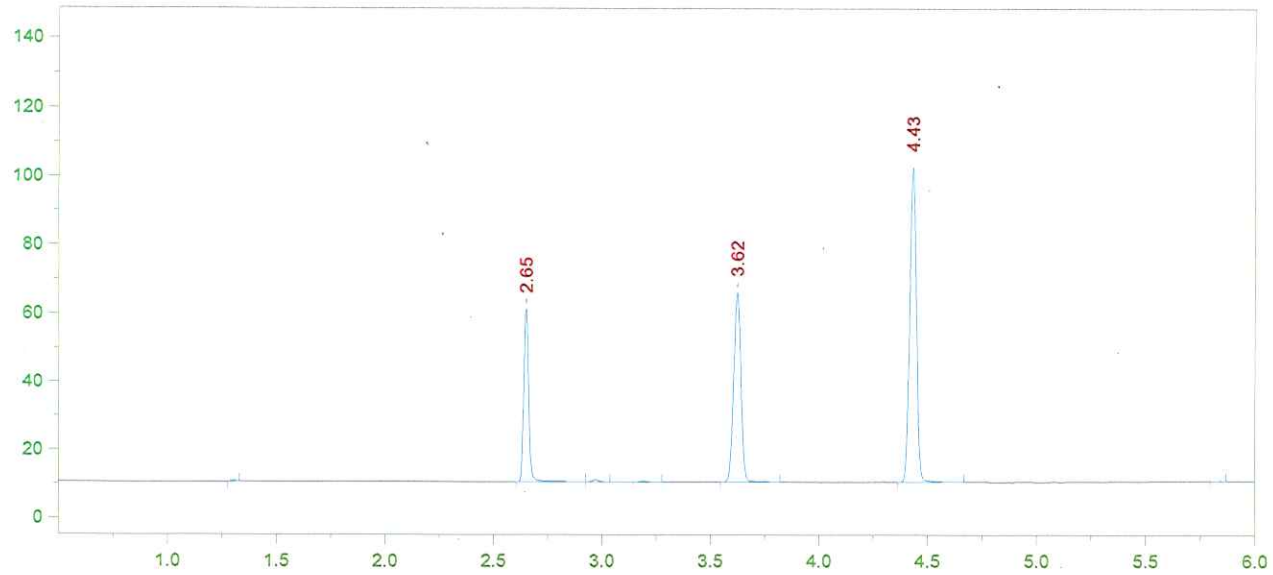


Format File Name = AlcoholVFL.FMT

Today's Date = 4/11/2016
Today's Time = 8:44:18 AM
Bound File Name = VFL03292016.0004.RAW
Sample Name = STD B
Date Taken = 3/29/2016 4:22:02 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	20315	0.0195
5	3.62	t-Butanol	137255	1.0222
6	4.43	n-Propanol	204258	1.0000

16-04-100 7

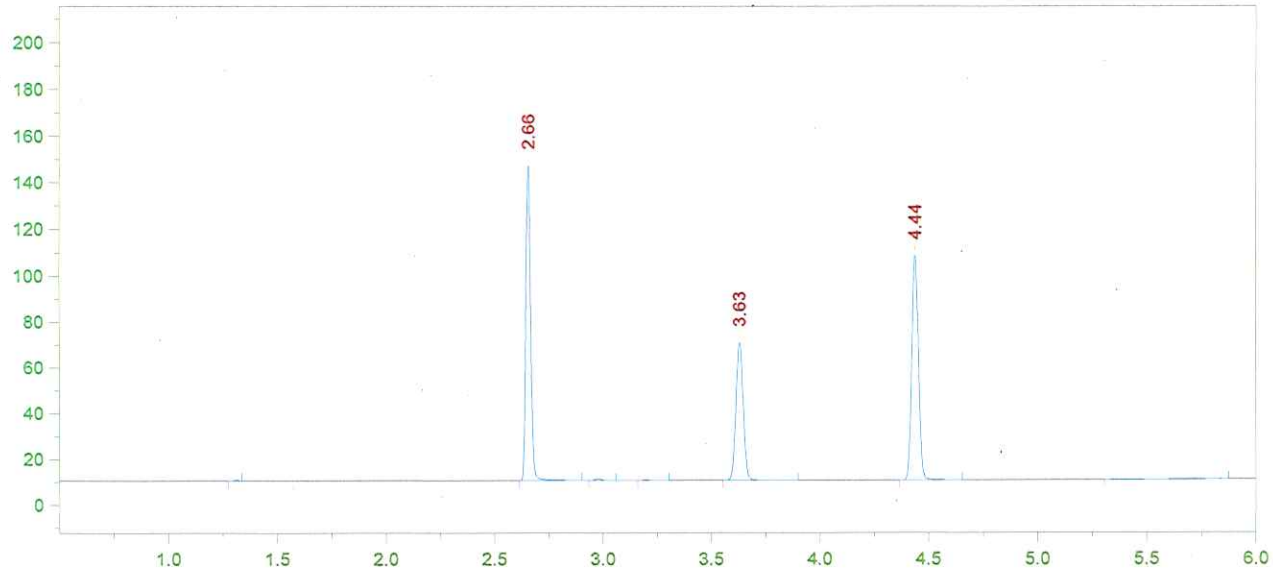


Format File Name = AlcoholVFL.FMT

Today's Date = 4/11/2016
Today's Time = 8:44:24 AM
Bound File Name = VFL03292016.0005.RAW
Sample Name = STD C
Date Taken = 3/29/2016 4:36:34 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	79014	0.0790
5	3.62	t-Butanol	128271	0.9969
6	4.43	n-Propanol	195742	1.0000

16-04-100 DS 8



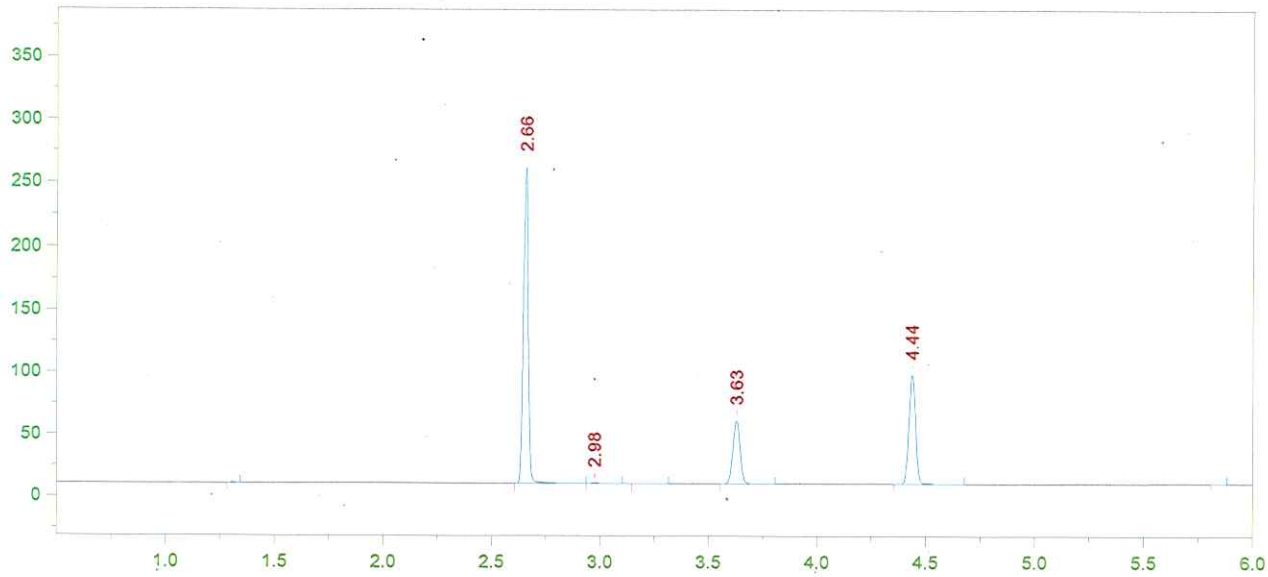
Format File Name = AlcoholVFL.FMT

Today's Date = 4/11/2016
Today's Time = 8:44:30 AM
Bound File Name = VFL03292016.0006.RAW
Sample Name = STD D
Date Taken = 3/29/2016 4:53:25 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	209778	0.1976
5	3.63	t-Butanol	139088	1.0187
6	4.44	n-Propanol	207703	1.0000

16-04-100

9



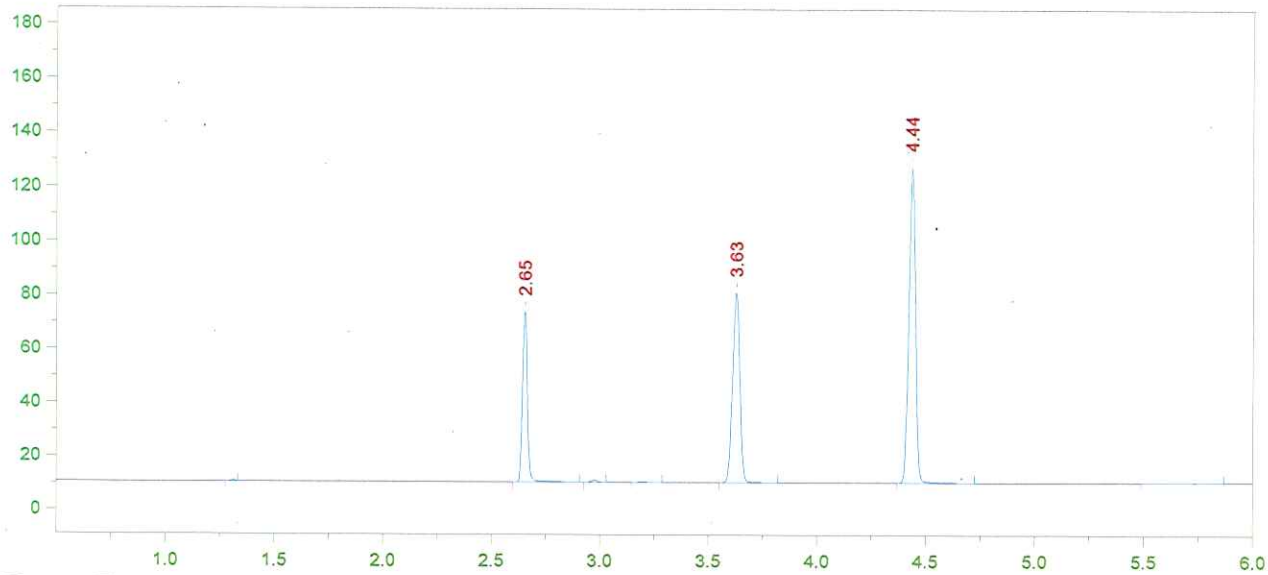
Format File Name = AlcoholVFL.FMT

Today's Date = 4/11/2016
Today's Time = 8:44:35 AM
Bound File Name = VFL03292016.0007.RAW
Sample Name = STD E
Date Taken = 3/29/2016 5:06:44 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	384063	0.4015
5	3.63	t-Butanol	118241	0.9612
6	4.44	n-Propanol	187124	1.0000

16-04-100

10



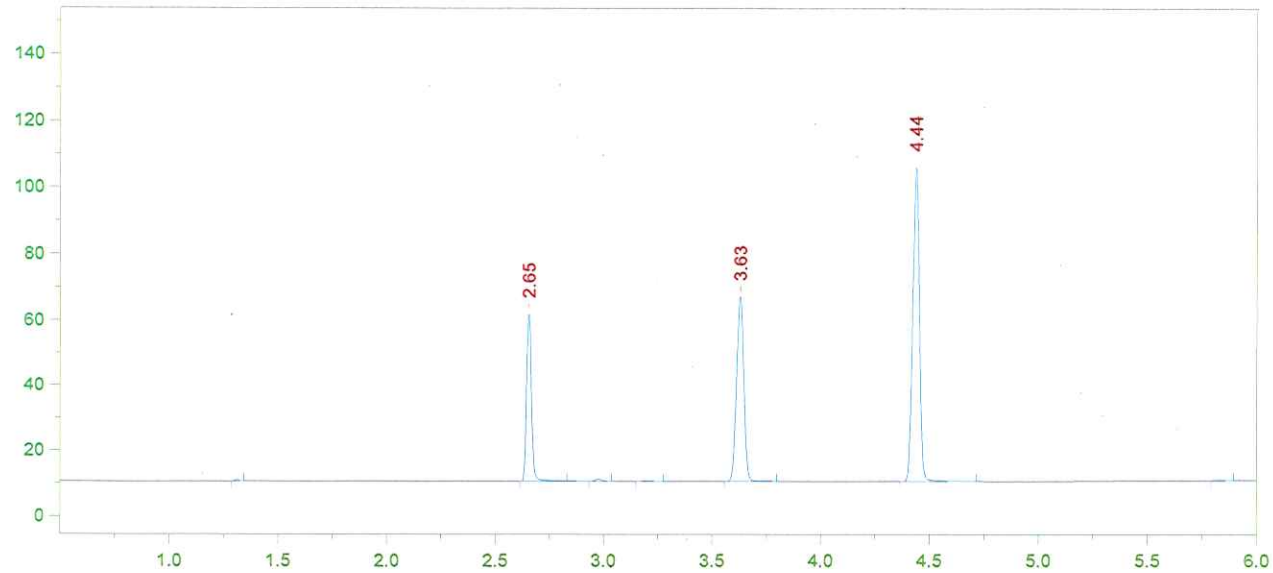
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 5:23:18 PM
Bound File Name = VFL03292016.0008.RAW
Sample Name = AQ
Date Taken = 3/29/2016 5:23:10 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	97815	0.0775
5	3.63	t-Butanol	163370	1.0069
6	4.44	n-Propanol	246817	1.0000

16-04-100

11



Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 5:38:51 PM
Bound File Name = VFL03292016.0009.RAW
Sample Name = AQ
Date Taken = 3/29/2016 5:38:43 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	80004	0.0774
5	3.63	t-Butanol	130526	0.9819
6	4.44	n-Propanol	202220	1.0000

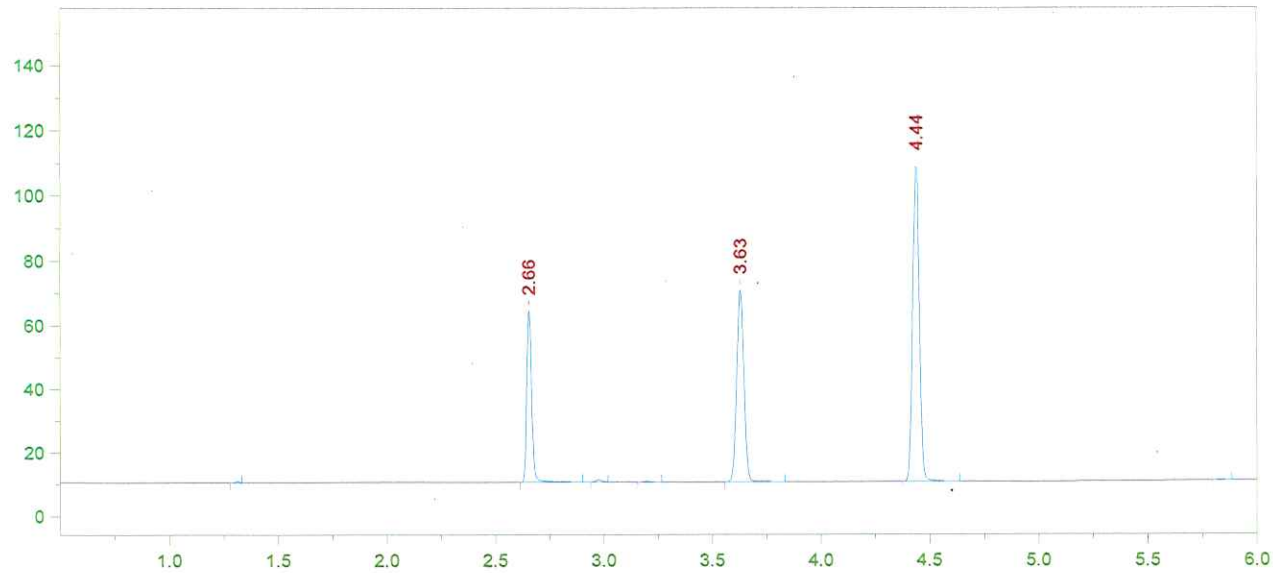
AQ MEAN: 0.0774

±5%: 0.0735 - 0.0813

RECOVERY: $\frac{0.077}{0.080}$ = 96.2%

DS 4/11/16

16-04-100 DS 12

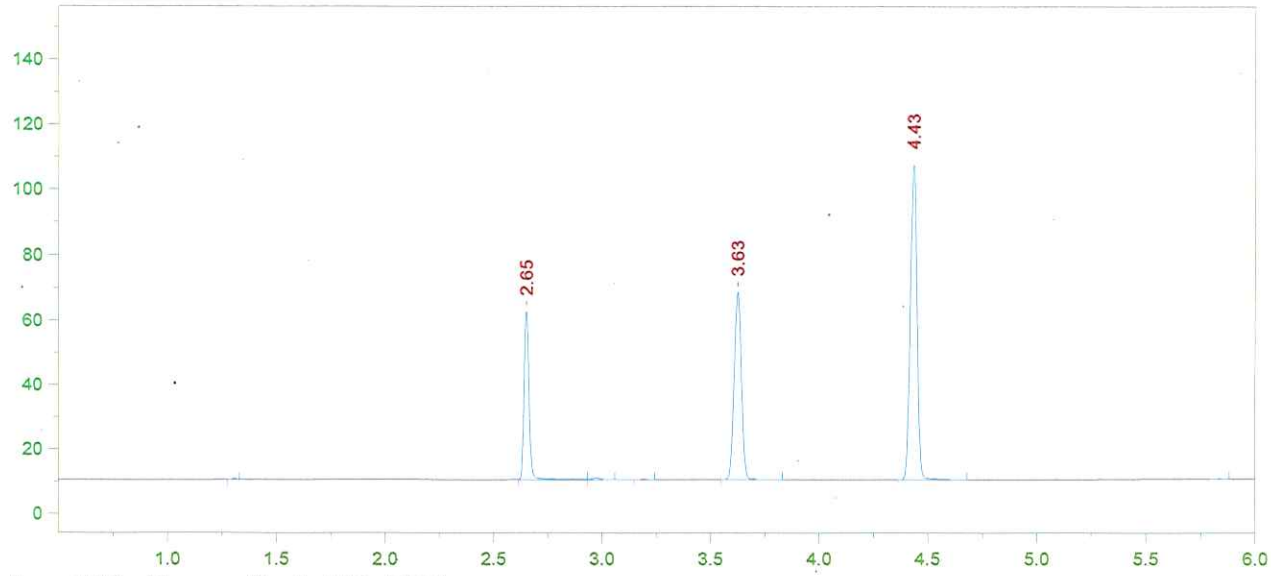


Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 5:54:46 PM
Bound File Name = VFL03292016.0010.RAW
Sample Name = CCS
Date Taken = 3/29/2016 5:54:41 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	84014	0.0788
5	3.63	t-Butanol	138590	1.0116
6	4.44	n-Propanol	208420	1.0000

16-04-100 DS 13



Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 6:08:32 PM
Bound File Name = VFL03292016.0011.RAW
Sample Name = CCS
Date Taken = 3/29/2016 6:08:27 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	81417	0.0770
5	3.63	t-Butanol	134509	0.9900
6	4.43	n-Propanol	206695	1.0000

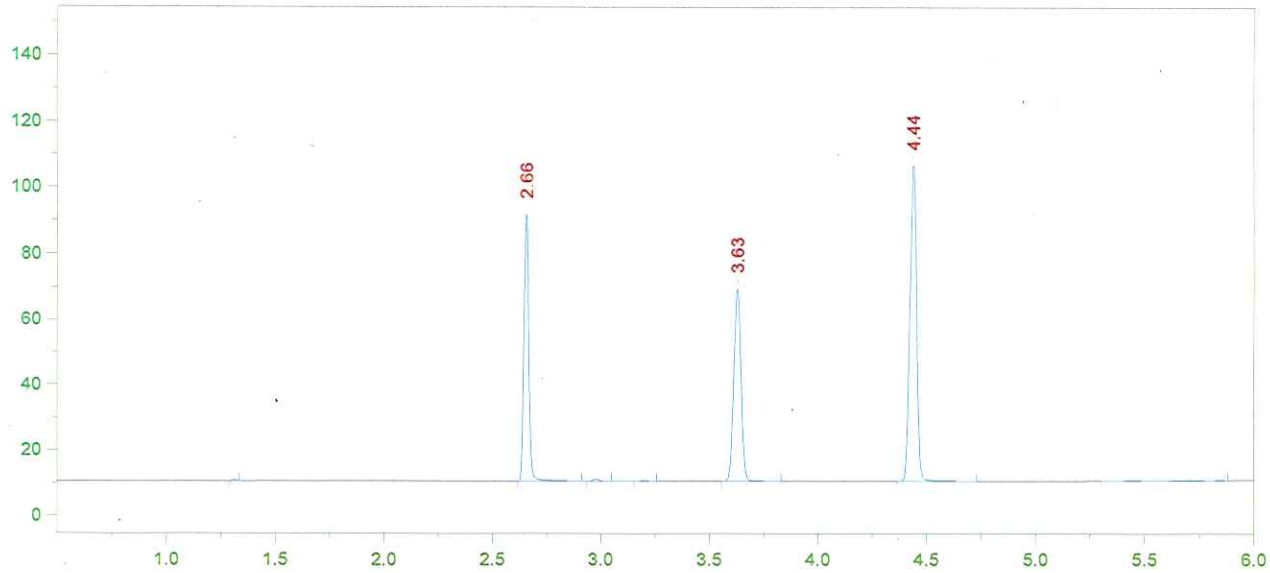
CCS MEAN: 0.0779

±5%: 0.0740 - 0.0818

Recovery: $\frac{0.078}{0.080}$ = 97.5%

DG 4/1/16

16-04-100 DG 14



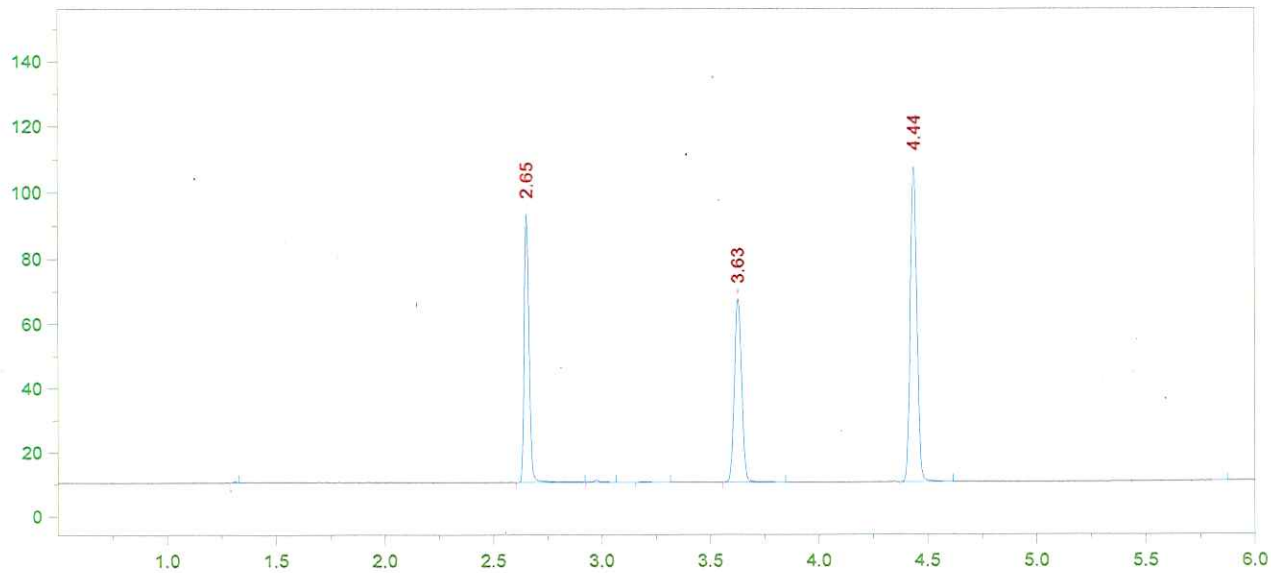
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 6:26:15 PM
Bound File Name = VFL03292016.0012.RAW
Sample Name = 0.1 DP
Date Taken = 3/29/2016 6:26:08 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	125438	0.1203	0.0982
5	3.63	t-Butanol	135564	1.0114	0.8255
6	4.44	n-Propanol	203894	1.0000	0.8162

16-04-100

15

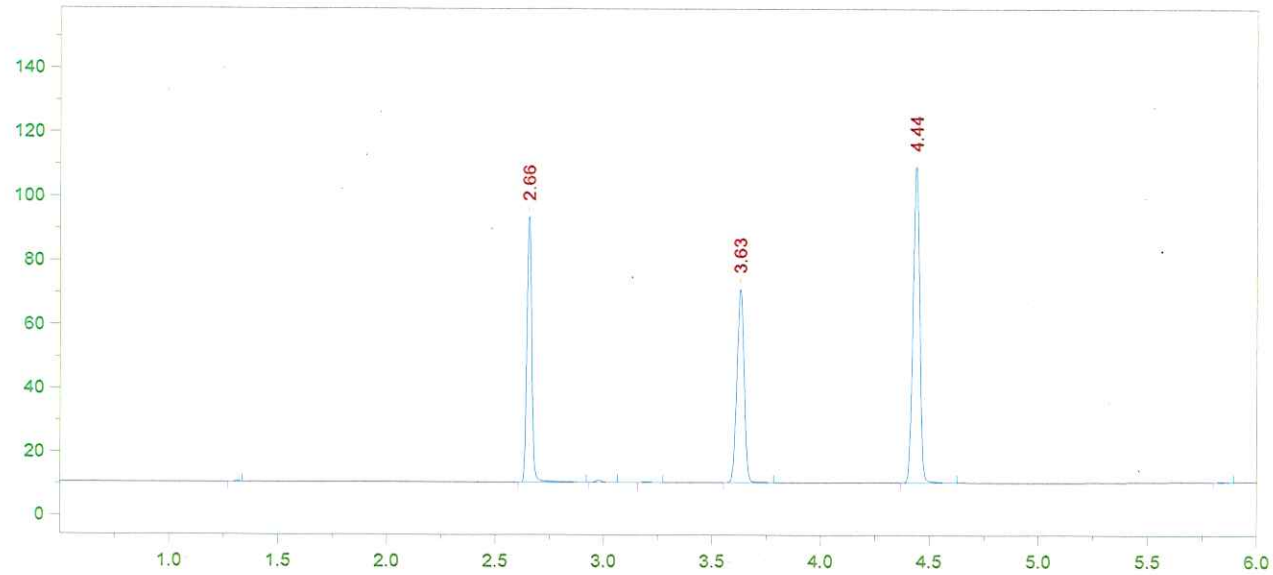


Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 6:40:13 PM
Bound File Name = VFL03292016.0013.RAW
Sample Name = 0.1 DP
Date Taken = 3/29/2016 6:40:09 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	127499	0.1211	0.0989
5	3.63	t-Butanol	132226	0.9770	0.7974
6	4.44	n-Propanol	205877	1.0000	0.8162

16-04-100 16

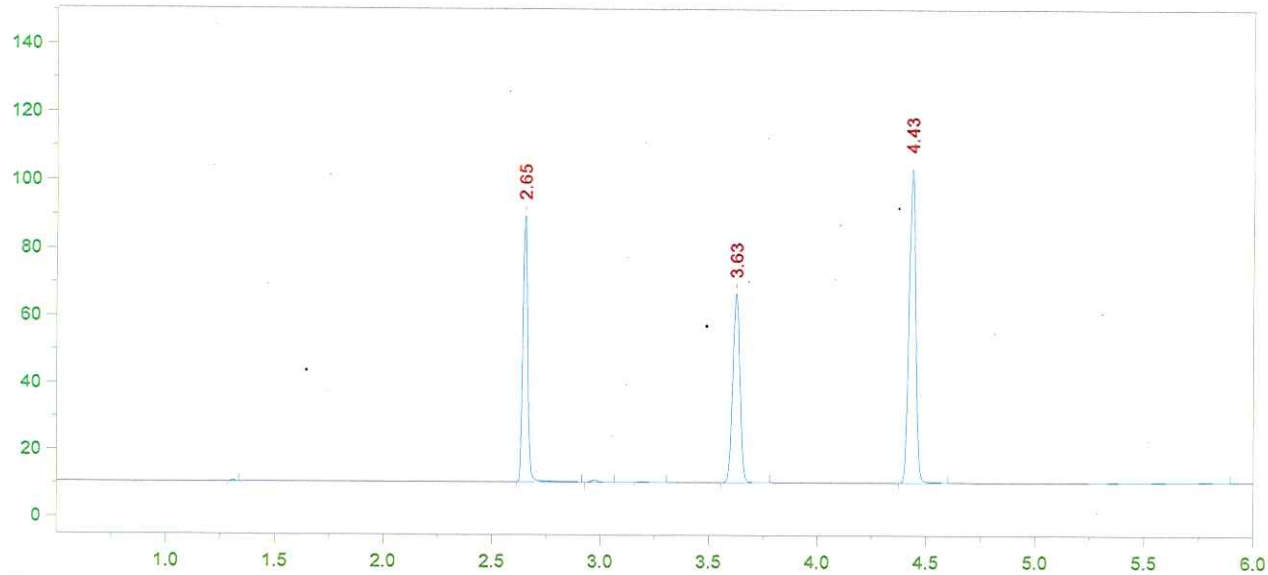


Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 6:57:38 PM
Bound File Name = VFL03292016.0014.RAW
Sample Name = 0.1 DP
Date Taken = 3/29/2016 6:57:32 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	129114	0.1203	0.0982
5	3.63	t-Butanol	140083	1.0150	0.8284
6	4.44	n-Propanol	209958	1.0000	0.8162

16-04-100 17

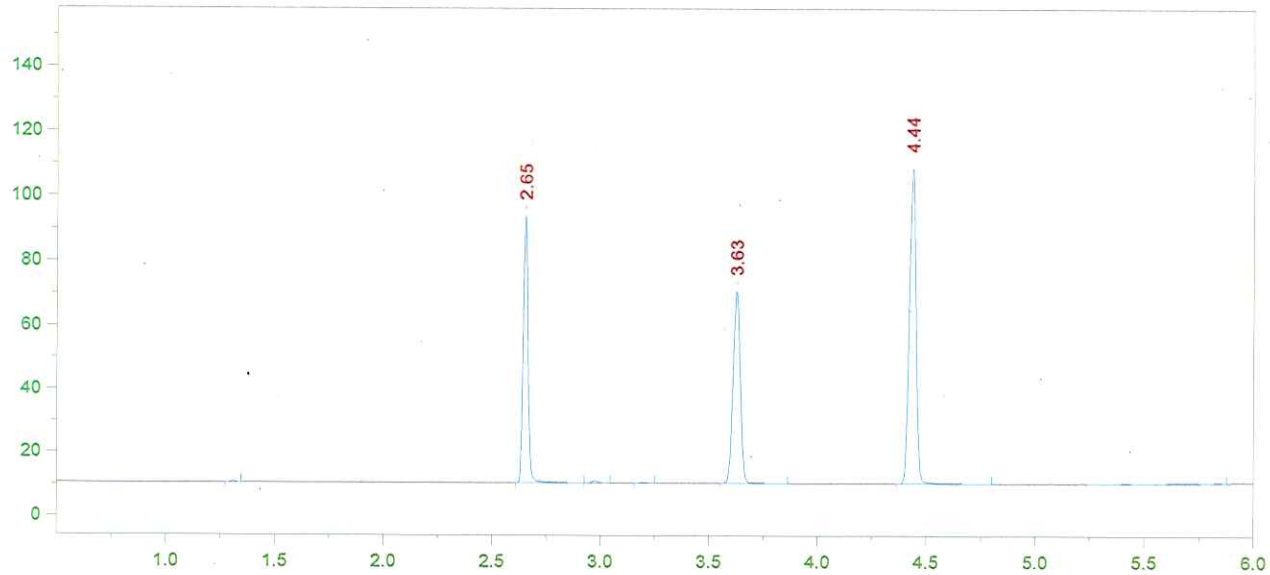


Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 7:12:13 PM
Bound File Name = VFL03292016.0015.RAW
Sample Name = 0.1 DP
Date Taken = 3/29/2016 7:12:08 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	123156	0.1211	0.0988
5	3.63	t-Butanol	129920	0.9932	0.8106
6	4.43	n-Propanol	198993	1.0000	0.8162

16-04-100 18

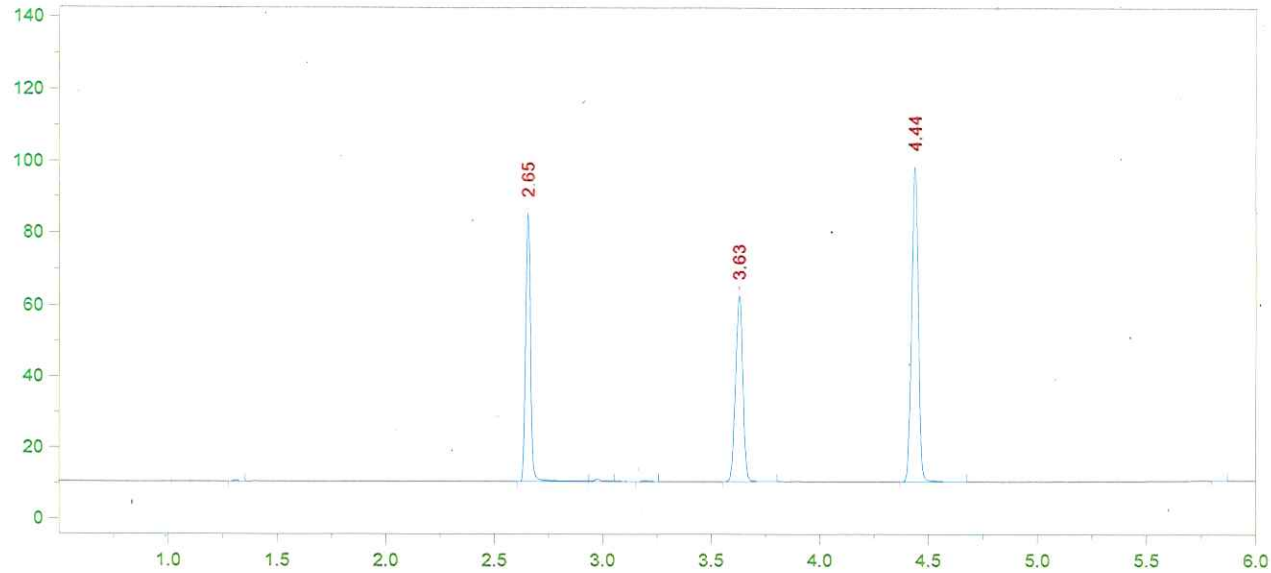


Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 7:29:01 PM
Bound File Name = VFL03292016.0016.RAW
Sample Name = 0.1 DP
Date Taken = 3/29/2016 7:28:57 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	128067	0.1195	0.0975
5	3.63	t-Butanol	139858	1.0150	0.8285
6	4.44	n-Propanol	209608	1.0000	0.8162

16-04-100 19



Format File Name = simsolnVFL.met.FMT

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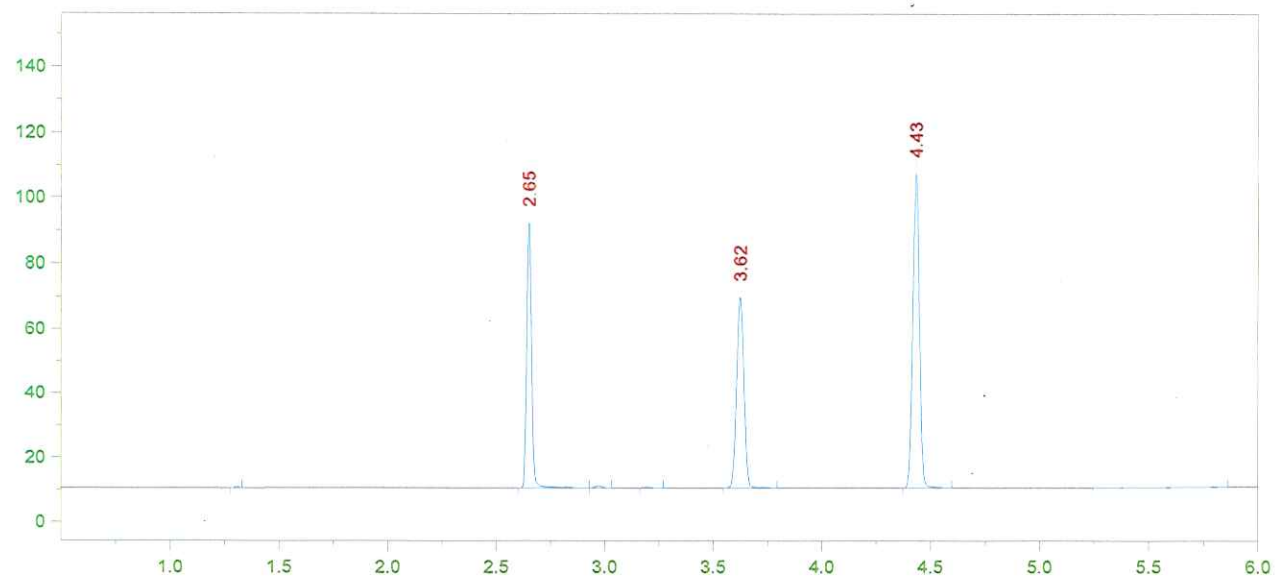
Today's Time = 7:43:56 PM
Bound File Name = VFL03292016.0017.RAW
Sample Name = 0.1 DP
Date Taken = 3/29/2016 7:43:50 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	115580	0.1216	0.0992
5	3.63	t-Butanol	120827	0.9884	0.8068
6	4.44	n-Propanol	185957	1.0000	0.8162

16-04-100 20



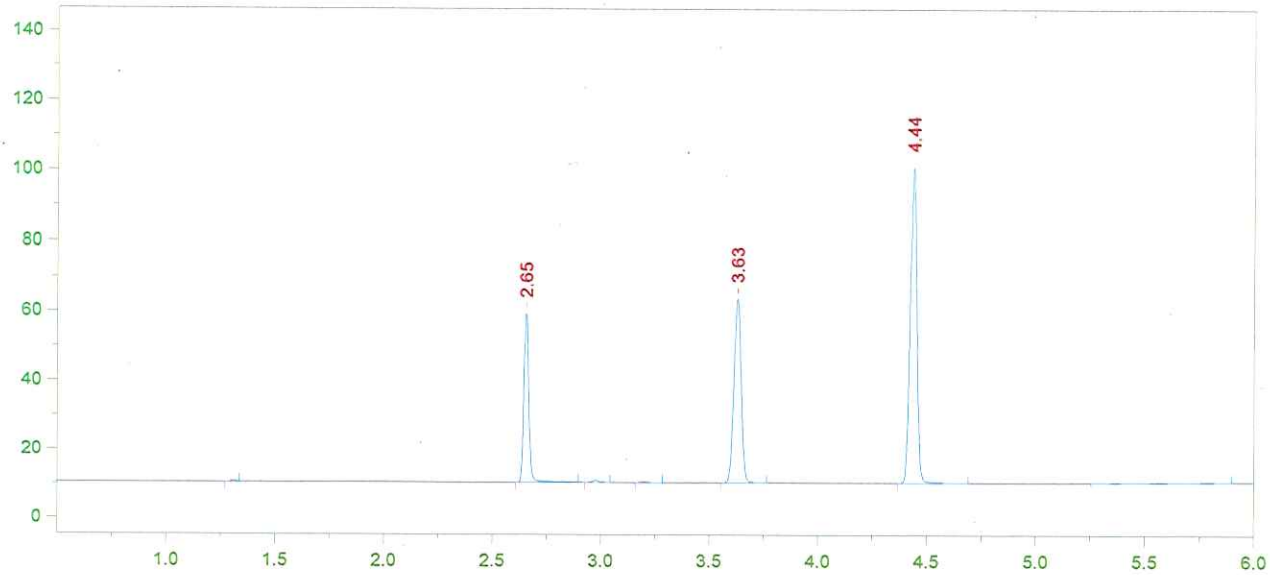
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 8:00:31 PM
Bound File Name = VFL03292016.0018.RAW
Sample Name = 0.1 DP
Date Taken = 3/29/2016 8:00:22 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	125821	0.1200	0.0979
5	3.62	t-Butanol	137297	1.0182	0.8310
6	4.43	n-Propanol	205136	1.0000	0.8162

16-04-100

21



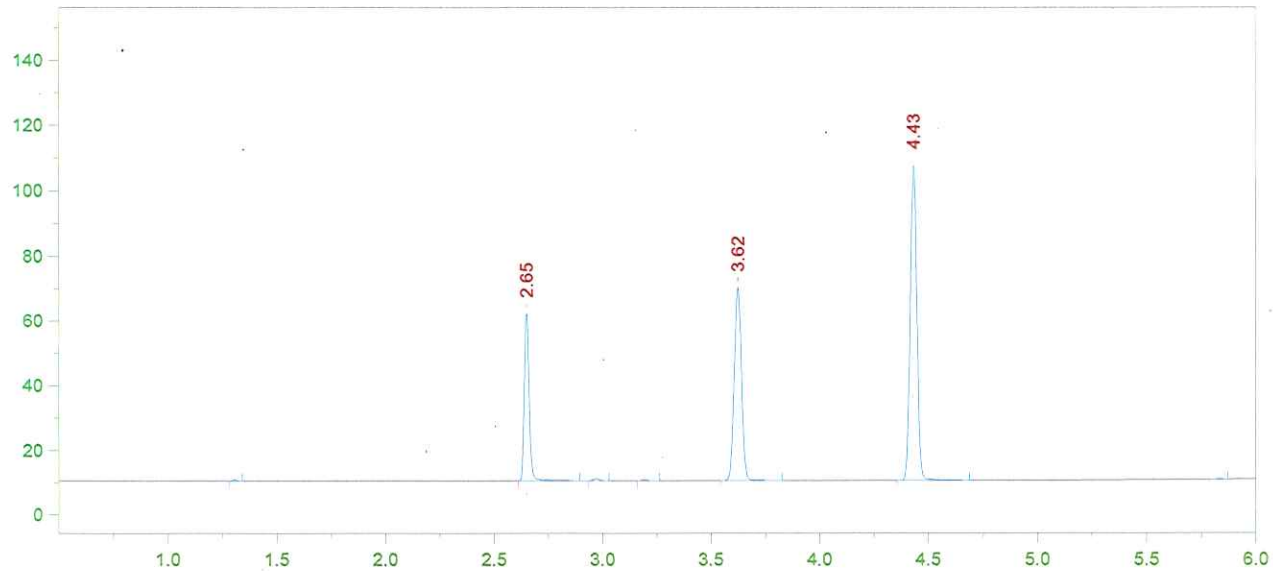
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 8:15:22 PM
Bound File Name = VFL03292016.0019.RAW
Sample Name = CCS
Date Taken = 3/29/2016 8:15:17 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	76732	0.0782
5	3.63	t-Butanol	123280	0.9774
6	4.44	n-Propanol	191877	1.0000

16-04-100

22



Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 8:31:51 PM
Bound File Name = VFL03292016.0020.RAW
Sample Name = CCS
Date Taken = 3/29/2016 8:31:46 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	80372	0.0762
5	3.62	t-Butanol	138114	1.0180
6	4.43	n-Propanol	206390	1.0000

CCS MEAN: 0.0772

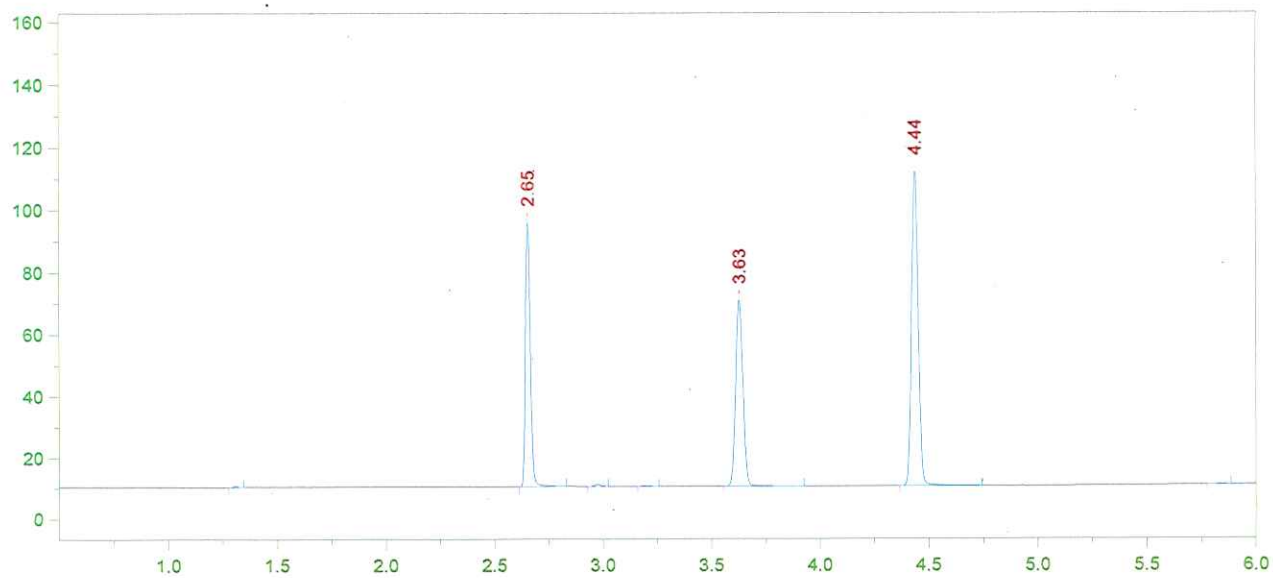
±5%: 0.0733 - 0.0810

Recovery: $\frac{0.077}{0.080}$ = 96.2%

JS 4/11/16

16-04-100

23



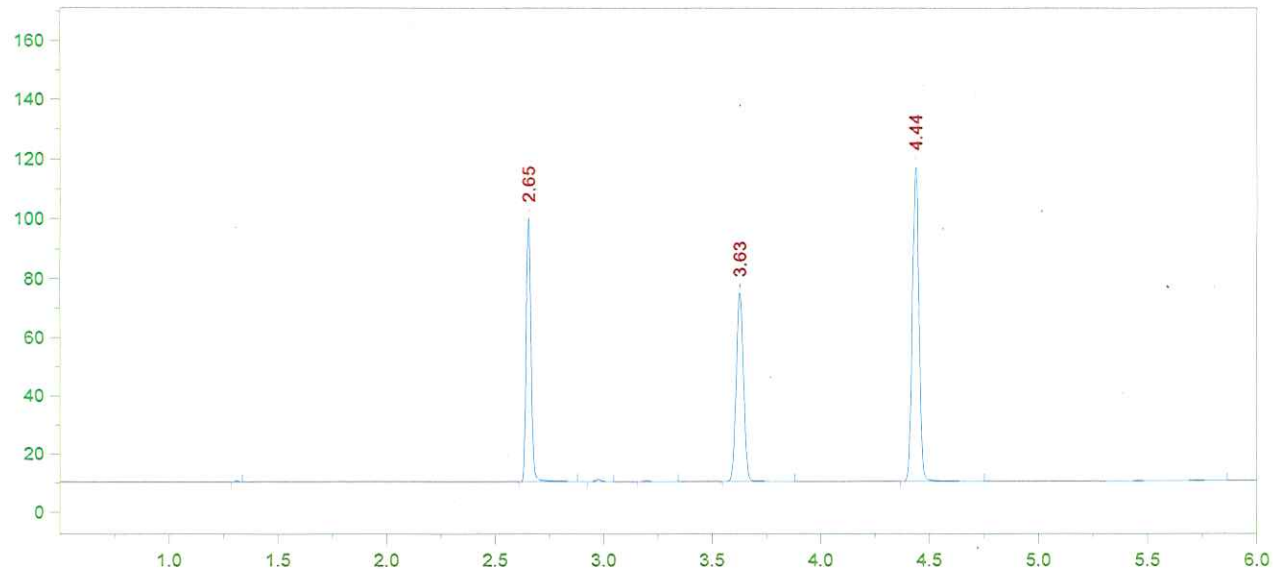
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 8:45:57 PM
Bound File Name = VFL03292016.0021.RAW
Sample Name = 0.1 JD
Date Taken = 3/29/2016 8:45:51 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	131526	0.1192	0.0973
5	3.63	t-Butanol	139508	0.9834	0.8027
6	4.44	n-Propanol	215797	1.0000	0.8162

16-04-100

24



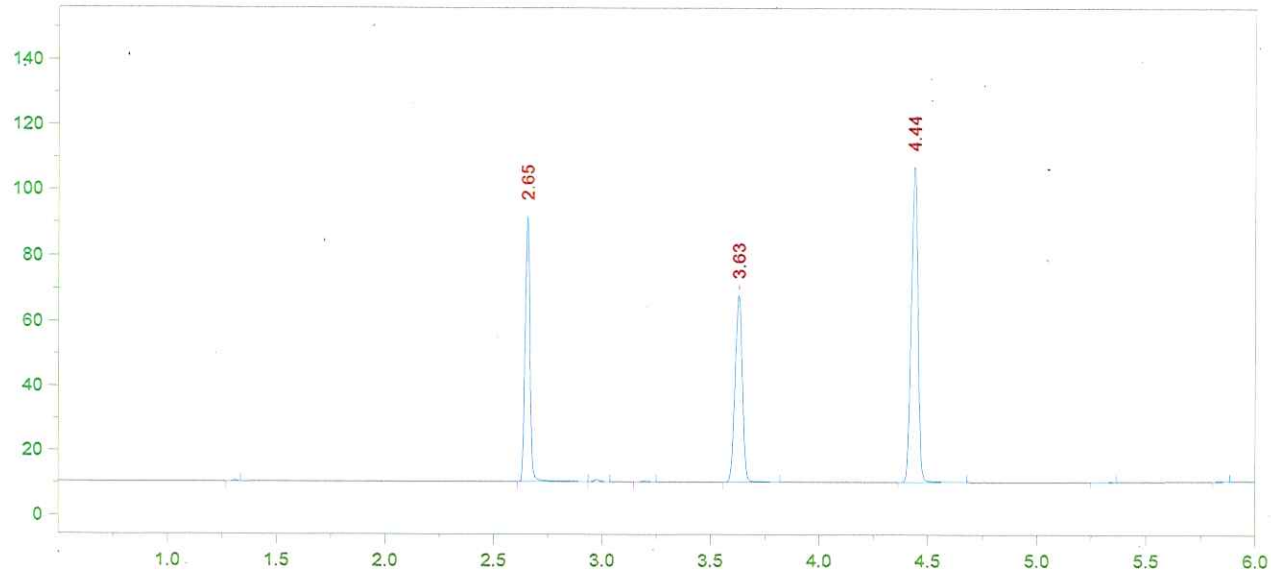
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 9:01:36 PM
Bound File Name = VFL03292016.0022.RAW
Sample Name = 0.1 JD
Date Taken = 3/29/2016 9:01:30 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	137605	0.1190	0.0971
5	3.63	t-Butanol	149352	1.0046	0.8199
6	4.44	n-Propanol	226161	1.0000	0.8162

16-04-100

25



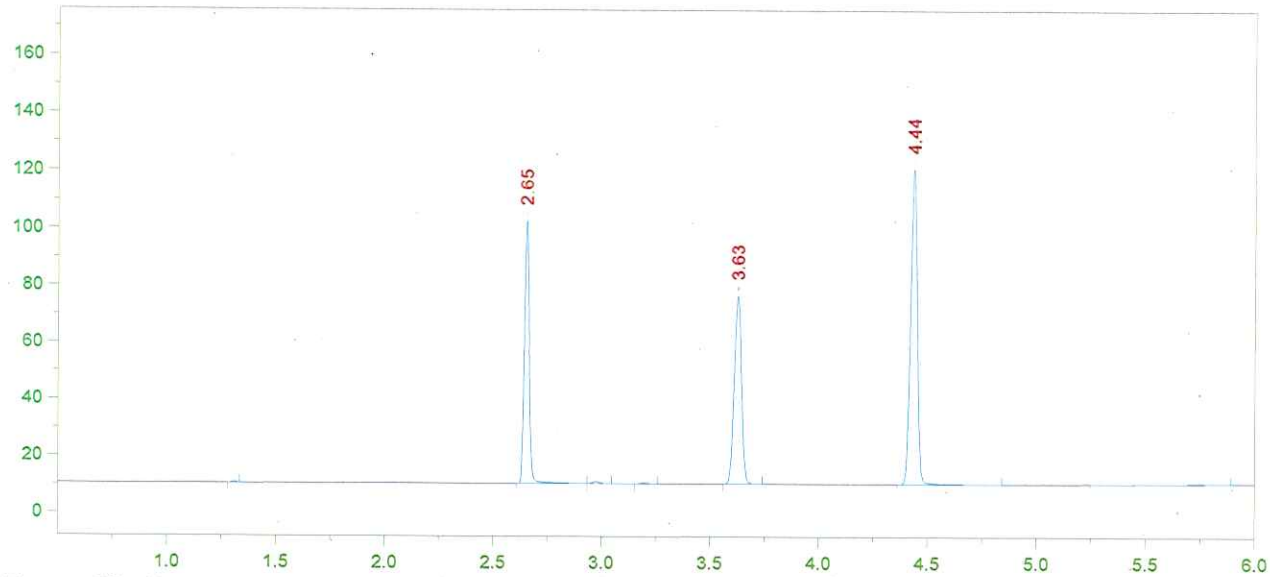
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 9:16:29 PM
Bound File Name = VFL03292016.0023.RAW
Sample Name = 0.1 JD
Date Taken = 3/29/2016 9:16:23 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	126429	0.1202	0.0981
5	3.63	t-Butanol	133683	0.9885	0.8068
6	4.44	n-Propanol	205729	1.0000	0.8162

16-04-100

DS 26



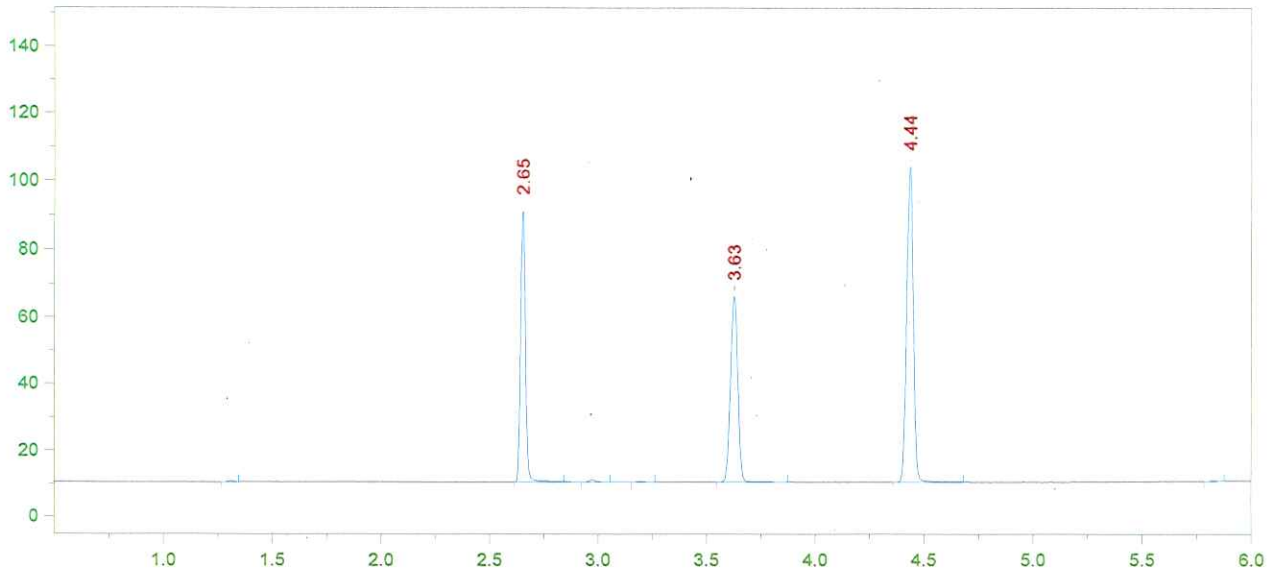
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 9:31:31 PM
Bound File Name = VFL03292016.0024.RAW
Sample Name = 0.1 JD
Date Taken = 3/29/2016 9:31:22 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	141984	0.1190	0.0971
5	3.63	t-Butanol	152960	0.9967	0.8135
6	4.44	n-Propanol	233467	1.0000	0.8162

16-04-100

Pg 27



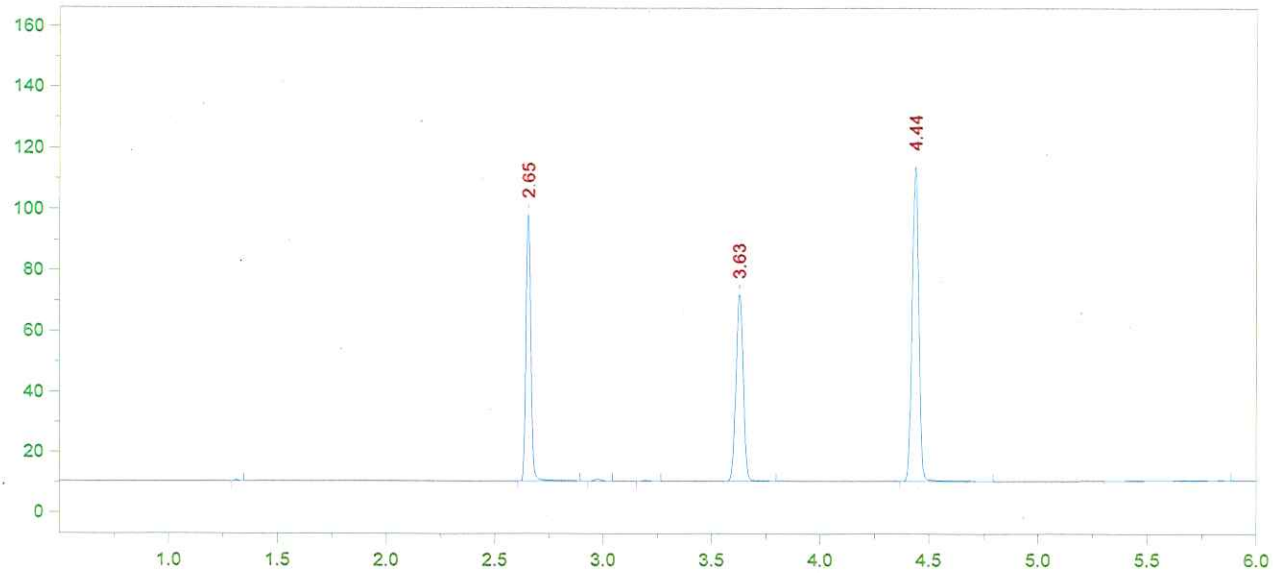
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 9:47:20 PM
Bound File Name = VFL03292016.0025.RAW
Sample Name = 0.1 JD
Date Taken = 3/29/2016 9:47:15 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	123868	0.1216	0.0992
5	3.63	t-Butanol	128819	0.9835	0.8027
6	4.44	n-Propanol	199258	1.0000	0.8162

16-04-100

28



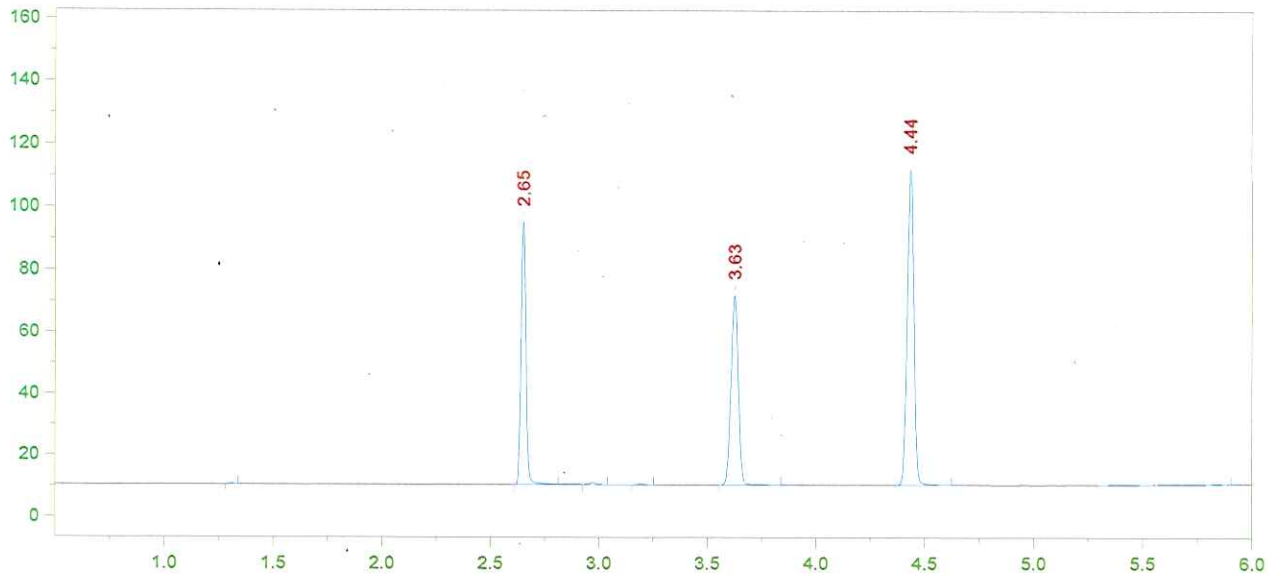
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 10:03:01 PM
Bound File Name = VFL03292016.0026.RAW
Sample Name = 0.1 JD
Date Taken = 3/29/2016 10:02:53 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	135112	0.1204	0.0982
5	3.63	t-Butanol	142986	0.9907	0.8086
6	4.44	n-Propanol	219554	1.0000	0.8162

16-04-100

29



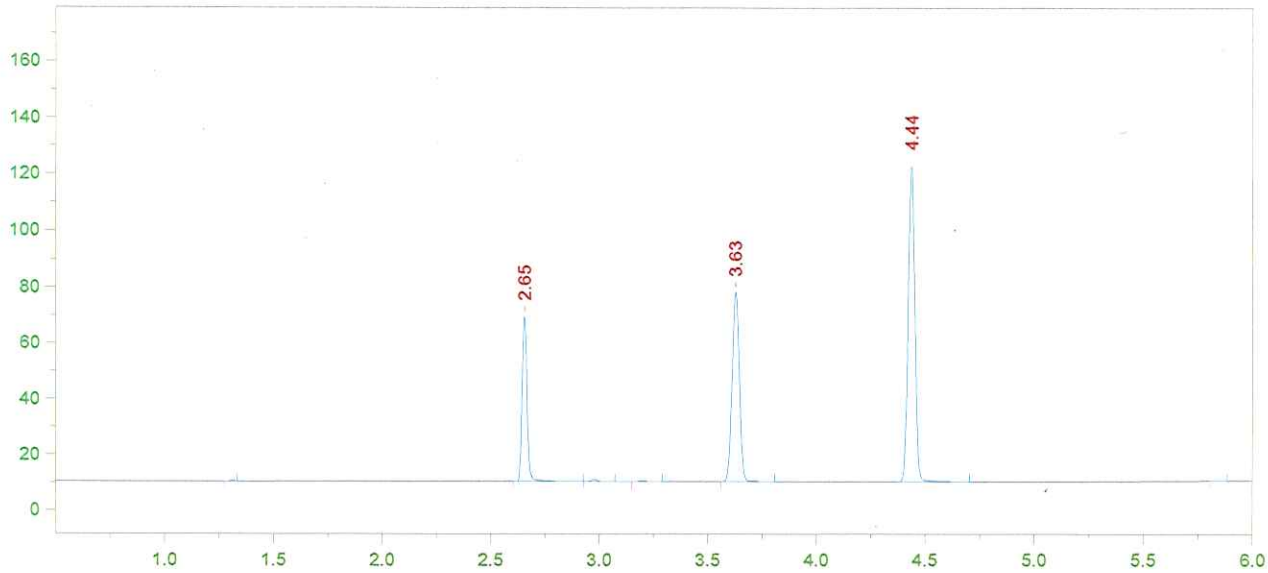
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/29/2016
Today's Time = 10:17:06 PM
Bound File Name = VFL03292016.0027.RAW
Sample Name = 0.1 JD
Date Taken = 3/29/2016 10:16:57 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	131152	0.1193	0.0974
5	3.63	t-Butanol	141591	1.0015	0.8174
6	4.44	n-Propanol	215080	1.0000	0.8162

16-04-100

~~08~~ 30



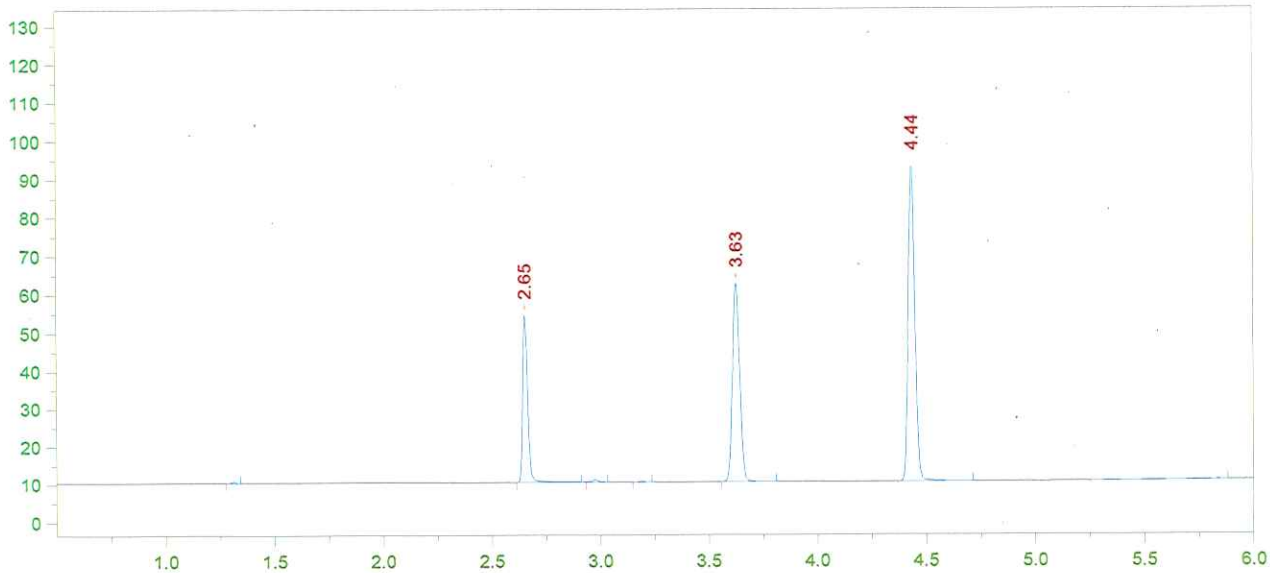
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 10:32:42 PM
Bound File Name = VFL03292016.0028.RAW
Sample Name = CCS
Date Taken = 3/29/2016 10:32:37 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	91668	0.0754
5	3.63	t-Butanol	156785	1.0036
6	4.44	n-Propanol	237654	1.0000

16-04-100

31



Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 10:49:21 PM
Bound File Name = VFL03292016.0029.RAW
Sample Name = CCS
Date Taken = 3/29/2016 10:49:13 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03292016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	68627	0.0760
5	3.63	t-Butanol	120355	1.0369
6	4.44	n-Propanol	176576	1.0000

CCS MEAN: 0.0757

±5%: 0.0719 - 0.0795

RECOVERY: $\frac{0.076}{0.080}$ = 95.0%

16-04-100

DG 32

File Name = C:\Alcohol Data\VFL03282016\VFL03282016.SEQ
Version = 4
File Date = 3/28/2016 1:41:43 PM

Entry #	Raw File Name	Method File Name	Sample Name	Sample Wt.	Int. Std. Amount
1	VFL03282016.0001.raw	Blood Alc temp VFL.MET	BLANK	1.00	1.00
2	VFL03282016.0002.raw	Blood Alc temp VFL.MET	TMX	1.00	1.00
3	VFL03282016.0003.raw	Blood Alc temp VFL.MET	STD A	1.00	1.00
4	VFL03282016.0004.raw	Blood Alc temp VFL.MET	STD B	1.00	1.00
5	VFL03282016.0005.raw	Blood Alc temp VFL.MET	STD C	1.00	1.00
6	VFL03282016.0006.raw	Blood Alc temp VFL.MET	STD D	1.00	1.00
7	VFL03282016.0007.raw	Blood Alc temp VFL.MET	STD E	1.00	1.00
8	VFL03282016.0008.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
9	VFL03282016.0009.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
10	VFL03282016.0010.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
11	VFL03282016.0011.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
12	VFL03282016.0012.raw	simsoln.met	0.1 DP	1.00	1.00
13	VFL03282016.0013.raw	simsoln.met	0.1 DP	1.00	1.00
14	VFL03282016.0014.raw	simsoln.met	0.1 DP	1.00	1.00
15	VFL03282016.0015.raw	simsoln.met	0.1 DP	1.00	1.00
16	VFL03282016.0016.raw	simsoln.met	0.1 DP	1.00	1.00
17	VFL03282016.0017.raw	simsoln.met	0.1 DP	1.00	1.00
18	VFL03282016.0018.raw	simsoln.met	0.1 DP	1.00	1.00
19	VFL03282016.0019.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
20	VFL03282016.0020.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
21	VFL03282016.0021.raw	simsoln.met	0.1 JD	1.00	1.00
22	VFL03282016.0022.raw	simsoln.met	0.1 JD	1.00	1.00
23	VFL03282016.0023.raw	simsoln.met	0.1 JD	1.00	1.00
24	VFL03282016.0024.raw	simsoln.met	0.1 JD	1.00	1.00
25	VFL03282016.0025.raw	simsoln.met	0.1 JD	1.00	1.00
26	VFL03282016.0026.raw	simsoln.met	0.1 JD	1.00	1.00
27	VFL03282016.0027.raw	simsoln.met	0.1 JD	1.00	1.00
28	VFL03282016.0028.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
29	VFL03282016.0029.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00

16-04-100

DG 33

File Name: C:\Methods\VFL03282016.CAL
Version: 7

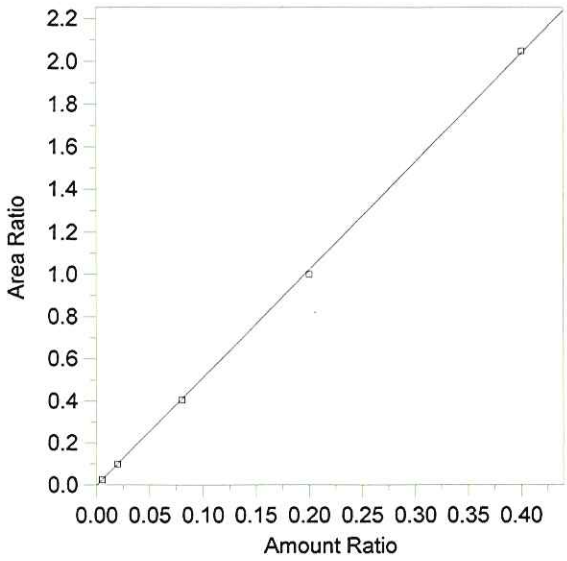
Creator:
Description:
Reason for change:

Internal standard calibration
No injection volume correction
No sample weight correction
Area reject threshold: 1500
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:	2.657 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 = 5.095241 X + 0

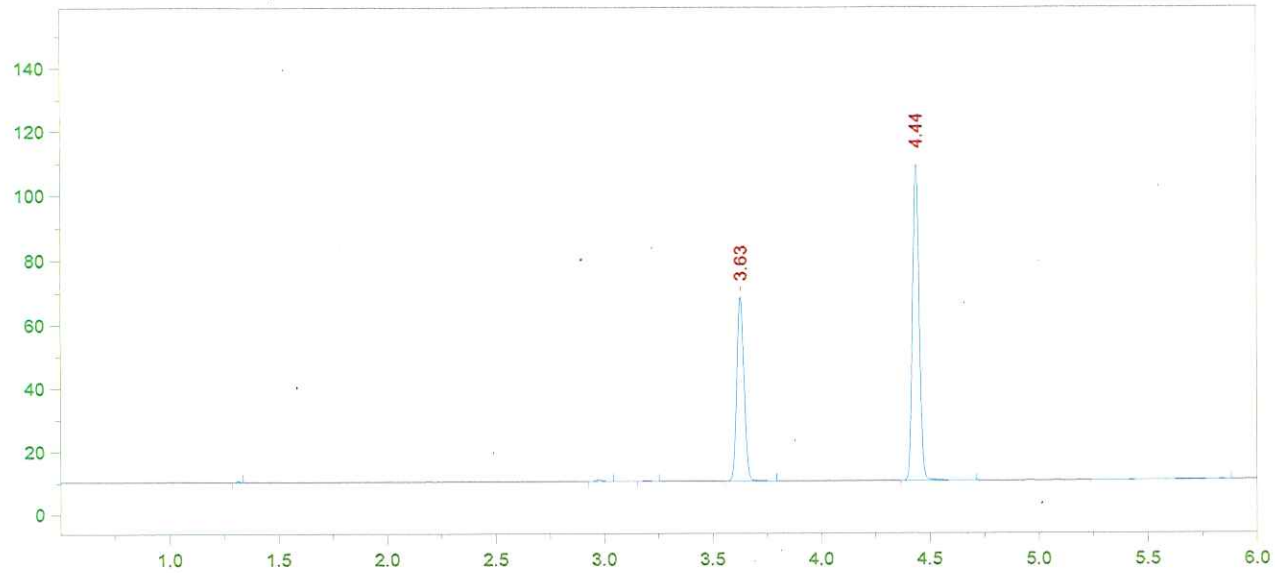
Linear fit with equal weighting, forced to origin

Coefficient of determination:	0.9998231
Average error:	1.433%
Average CF:	5.066128
RSD:	1.667%

Level	Amount	Response	Cal Factor	Error, %	Amount Ratio	Response Ratio	Source	Date and time
1	(0.078)	(85146)	--	--	0.078	85146	Manual	8/18/2015 8:39:13 AM
2	0.005	5263.798	1052760	1.642	0.005	2.589464E-02	C:\Alcohol Data\VFL03282016\VFL03282016.0003.BND	3/28/2016 2:51:06 PM
3	0.02	20938.02	1046901	-2.340	0.02	9.951999E-02	C:\Alcohol Data\VFL03282016\VFL03282016.0004.BND	3/28/2016 3:07:00 PM
4	0.08	78194.43	977430.4	-0.774	0.08	0.4044639	C:\Alcohol Data\VFL03282016\VFL03282016.0005.BND	3/28/2016 3:22:33 PM
5	0.2	207585.2	1037926	-1.895	0.2	0.9997337	C:\Alcohol Data\VFL03282016\VFL03282016.0006.BND	3/28/2016 3:38:23 PM
6	0.4	376321.9	940804.8	0.510	0.4	2.048499	C:\Alcohol Data\VFL03282016\VFL03282016.0007.BND	3/28/2016 3:54:02 PM

16-04-100

Pg 34



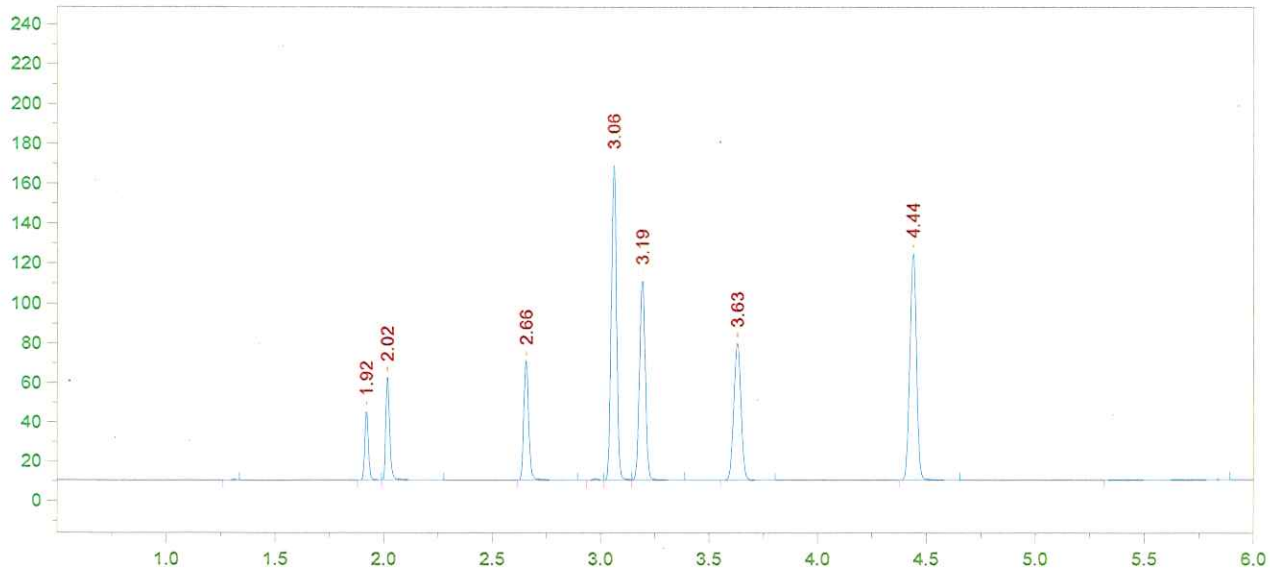
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 7:57:19 AM
Bound File Name = VFL03282016.0001.RAW
Sample Name = BLANK
Date Taken = 3/28/2016 2:19:57 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
4	3.63	t-Butanol	133907	0.9606
5	4.44	n-Propanol	210764	1.0000

16-04-100

Do 35



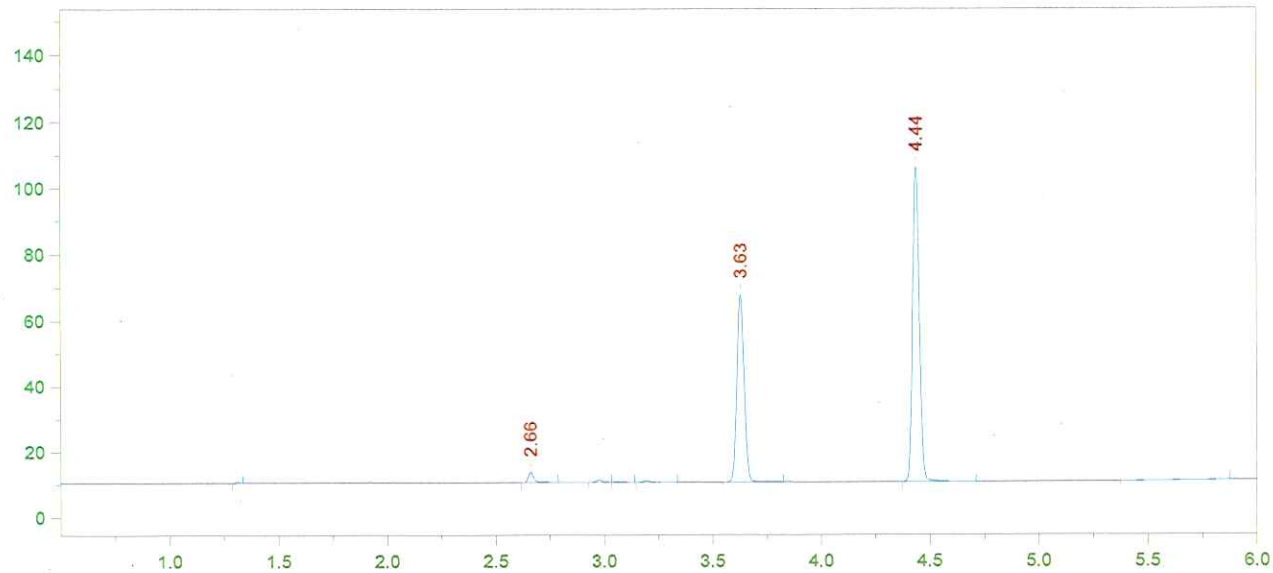
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 7:57:27 AM
Bound File Name = VFL03282016.0002.RAW
Sample Name = TMX
Date Taken = 3/28/2016 2:35:18 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	1.92	Acetaldehyde	40662	0.0686
3	2.02	Methanol	65475	0.1169
4	2.66	Ethanol	94396	0.0766
6	3.06	Acetone	270735	0.0612
7	3.19	Isopropanol	189116	0.0780
8	3.63	t-Butanol	160996	1.0061
9	4.44	n-Propanol	241925	1.0000

16-04-100

Pg 36



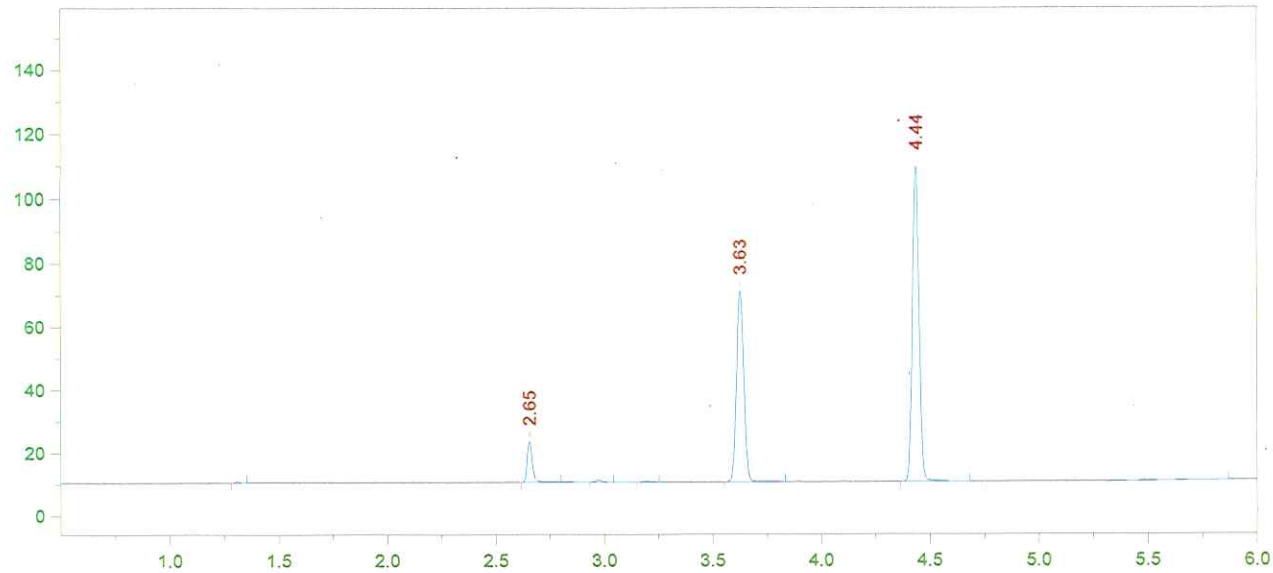
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 7:57:33 AM
Bound File Name = VFL03282016.0003.RAW
Sample Name = STD A
Date Taken = 3/28/2016 2:51:02 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	05264	0.0051
6	3.63	t-Butanol	132008	0.9818
7	4.44	n-Propanol	203278	1.0000

16-04-100

Pg 37



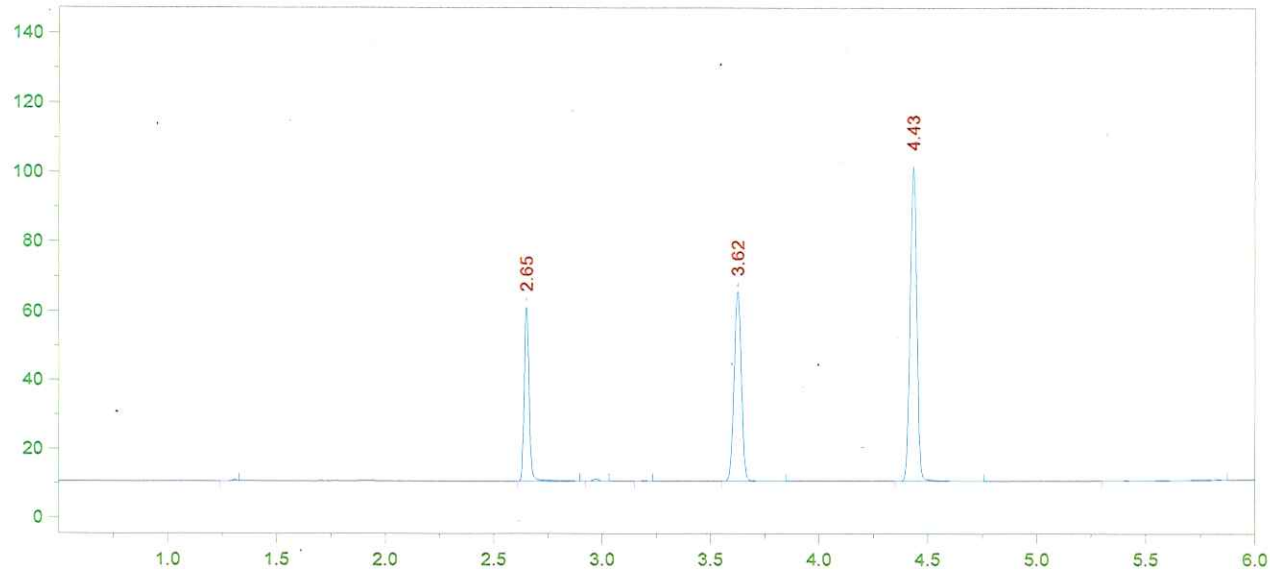
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 7:57:39 AM
Bound File Name = VFL03282016.0004.RAW
Sample Name = STD B
Date Taken = 3/28/2016 3:06:50 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	20938	0.0195
5	3.63	t-Butanol	139968	1.0058
6	4.44	n-Propanol	210390	1.0000

16-04-100

DG 38



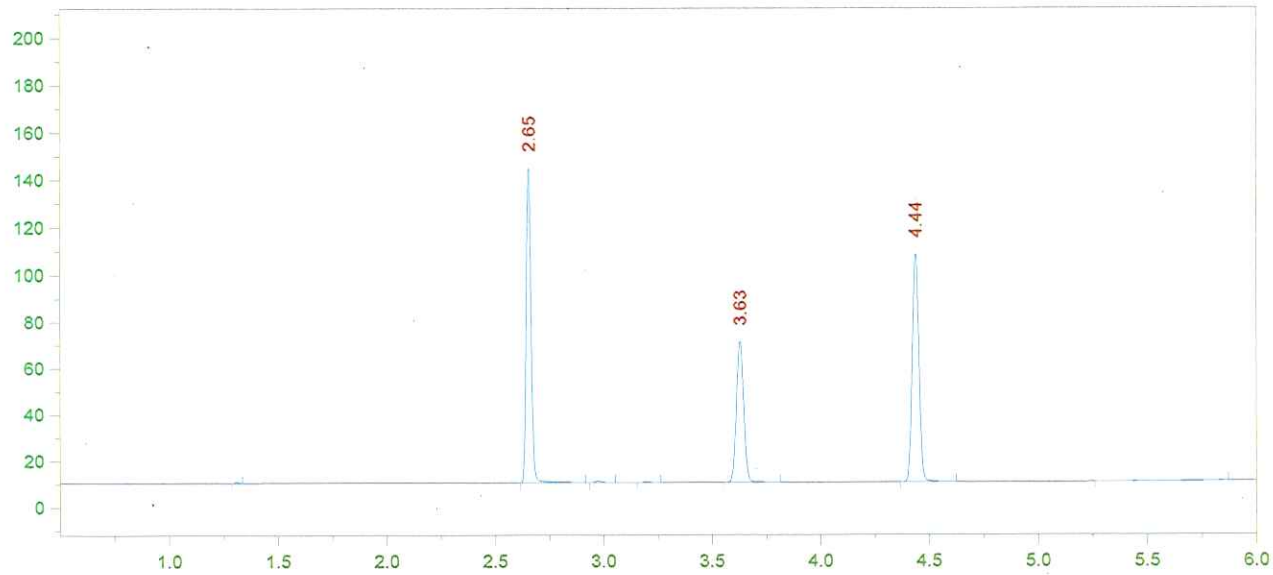
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 7:57:45 AM
Bound File Name = VFL03282016.0005.RAW
Sample Name = STD C
Date Taken = 3/28/2016 3:22:28 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	78194	0.0794
5	3.62	t-Butanol	127550	0.9975
6	4.43	n-Propanol	193329	1.0000

16-04-100

DS 39



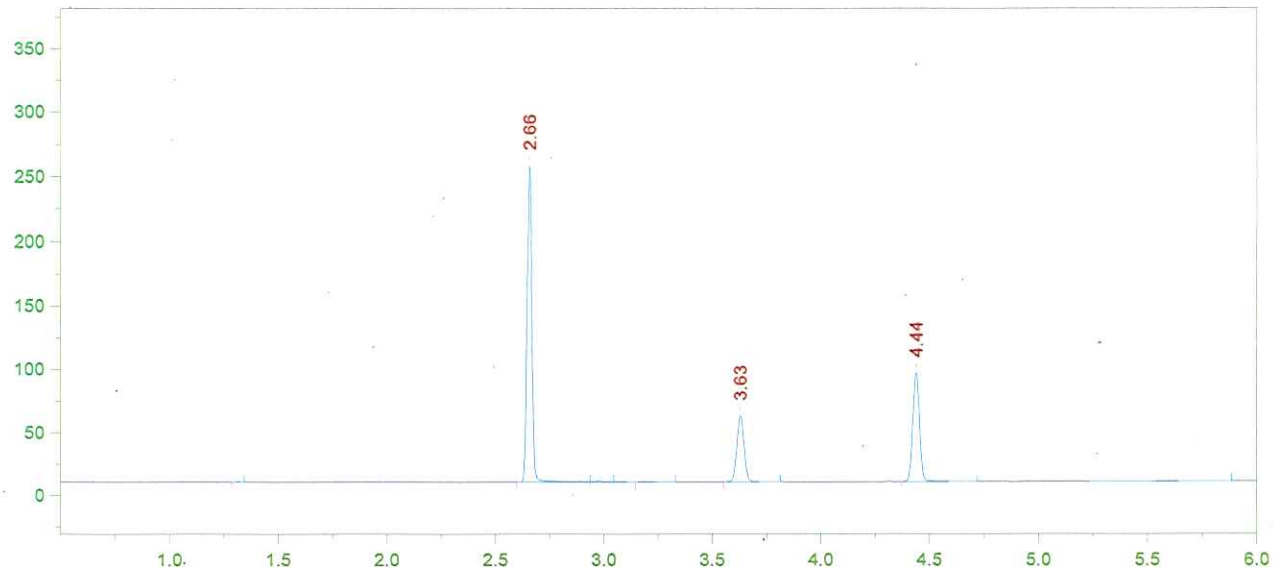
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 7:57:51 AM
Bound File Name = VFL03282016.0006.RAW
Sample Name = STD D
Date Taken = 3/28/2016 3:38:14 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	207585	0.1962
5	3.63	t-Butanol	140200	1.0208
6	4.44	n-Propanol	207641	1.0000

16-04-100

DS 40



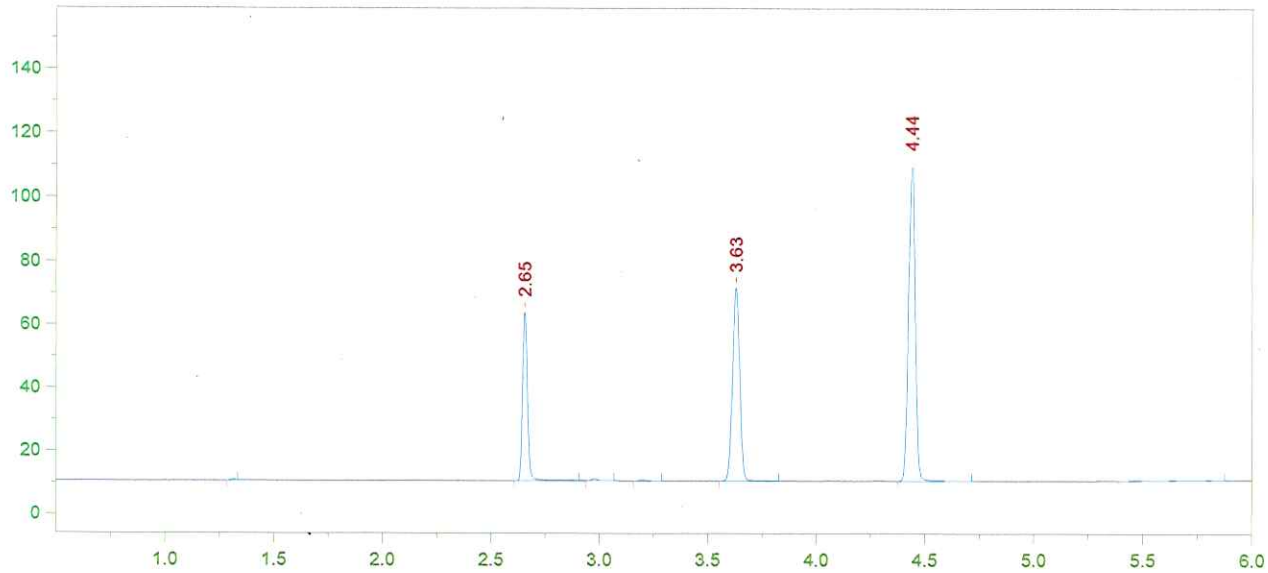
Format File Name = AlcoholVFL.FMT

Today's Date = 3/29/2016
Today's Time = 7:57:57 AM
Bound File Name = VFL03282016.0007.RAW
Sample Name = STD E
Date Taken = 3/28/2016 3:53:53 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	376322	0.4020
5	3.63	t-Butanol	120051	0.9880
6	4.44	n-Propanol	183706	1.0000

16-04-100

41



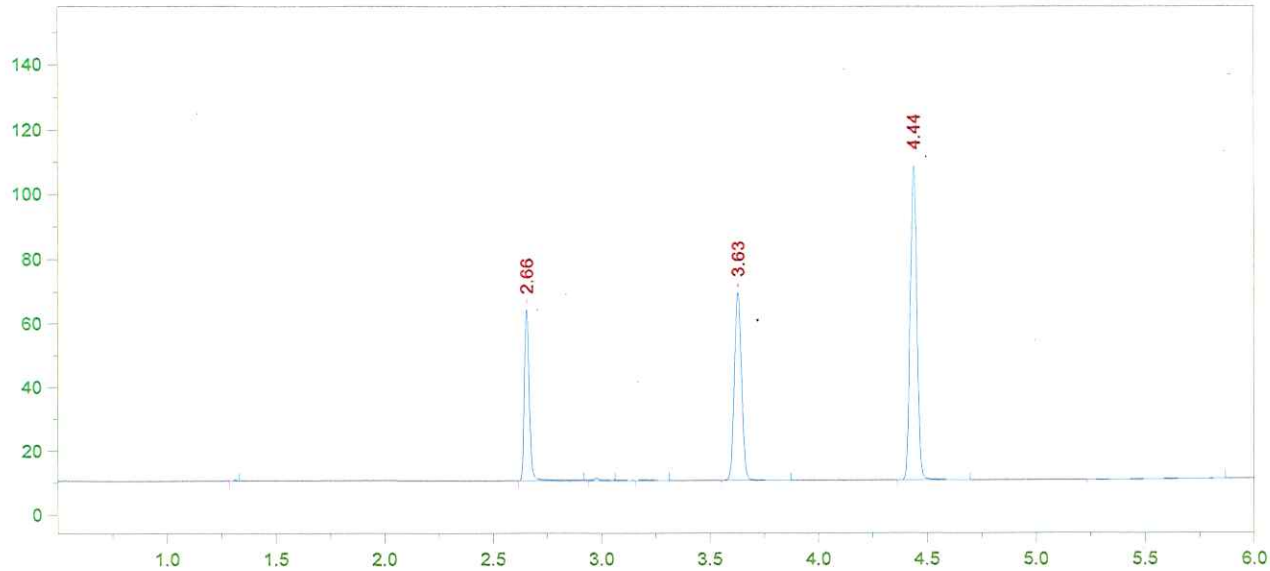
Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 4:09:44 PM
Bound File Name = VFL03282016.0008.RAW
Sample Name = AQ
Date Taken = 3/28/2016 4:09:39 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	83266	0.0776
5	3.63	t-Butanol	141053	1.0125
6	4.44	n-Propanol	210613	1.0000

16-04-100

DB 42



Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 4:24:23 PM
Bound File Name = VFL03282016.0009.RAW
Sample Name = AQ
Date Taken = 3/28/2016 4:24:19 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	83373	0.0786
5	3.63	t-Butanol	136050	0.9879
6	4.44	n-Propanol	208214	1.0000

AQ MEAN: 0.0781

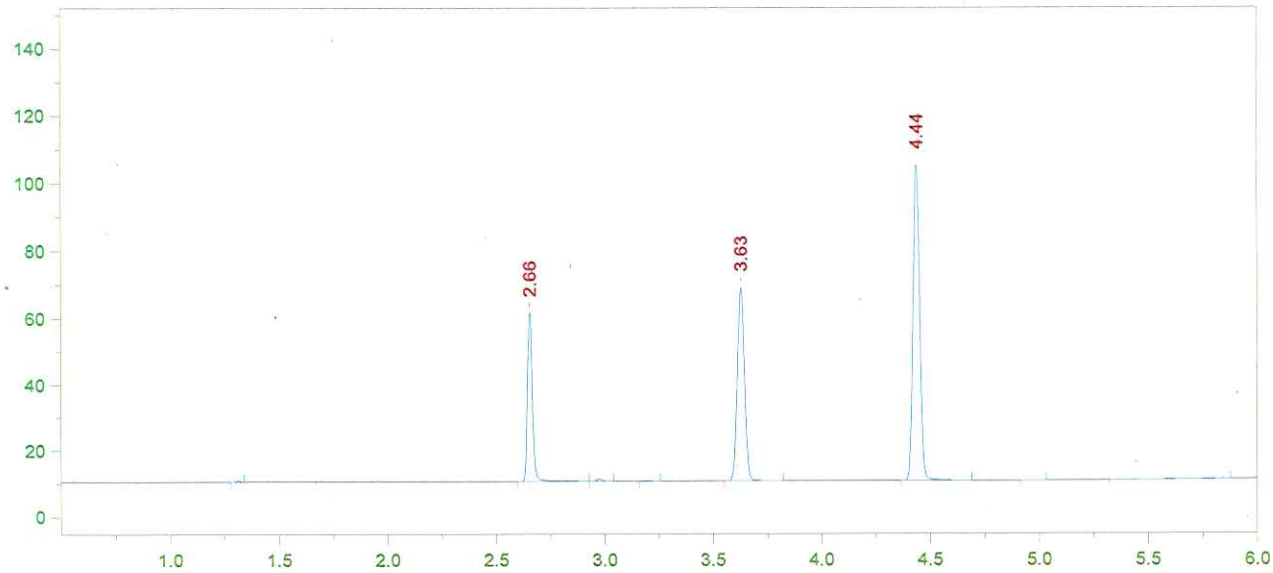
±5%: 0.0742 - 0.0820 ~~0.080~~ DG 3/29/16

Recovery: $\frac{0.078}{0.080}$ = 97.5%

DG 3/29/16

16-04-100

DG 43



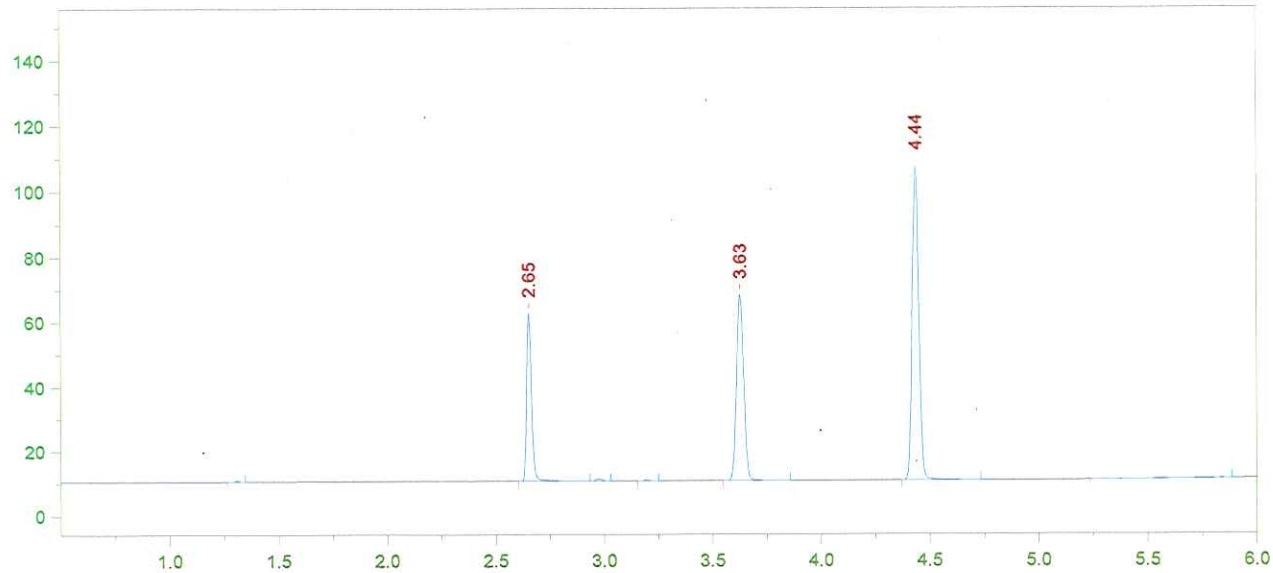
Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 4:41:10 PM
Bound File Name = VFL03282016.0010.RAW
Sample Name = CCS
Date Taken = 3/28/2016 4:41:03 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	79414	0.0774
5	3.63	t-Butanol	134243	1.0082
6	4.44	n-Propanol	201309	1.0000

16-04-100

Pg 44



Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 4:55:16 PM
Bound File Name = VFL03282016.0011.RAW
Sample Name = CCS
Date Taken = 3/28/2016 4:55:11 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	80403	0.0769
5	3.63	t-Butanol	132905	0.9795
6	4.44	n-Propanol	205145	1.0000

CCS MEAN: 0.0771

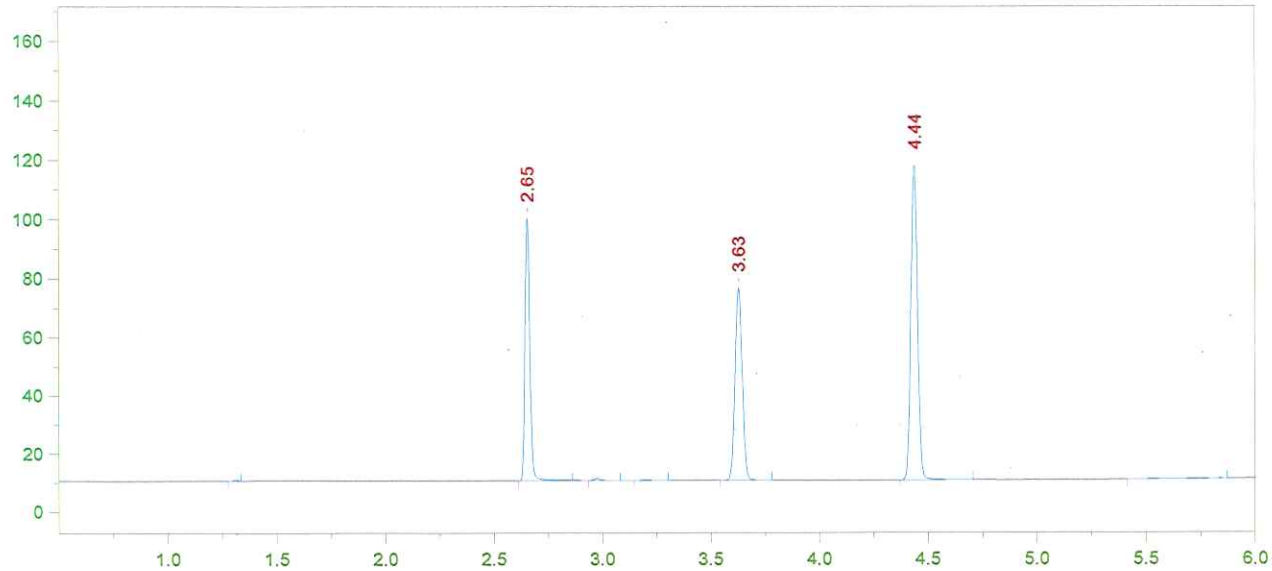
±5%: 0.0732 - 0.0809

Recovery: $\frac{0.077}{0.080}$ = 96.2%

DO 3/29/16

16-04-100

DO 45



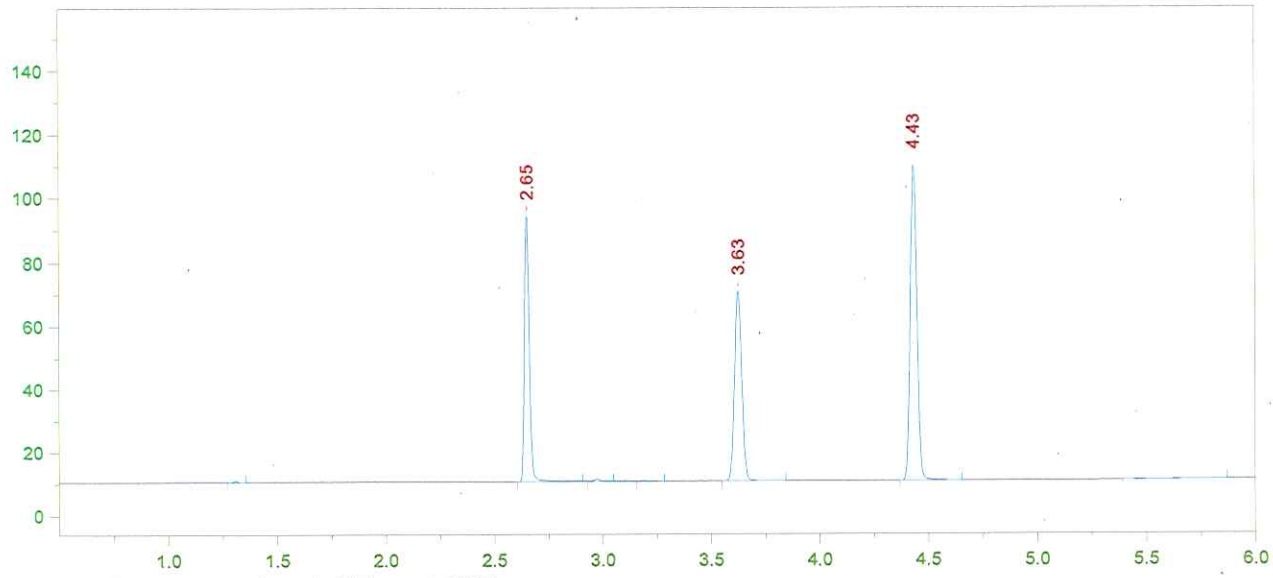
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 5:10:52 PM
Bound File Name = VFL03282016.0012.RAW
Sample Name = 0.1 DP
Date Taken = 3/28/2016 5:10:47 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	138756	0.1191	0.0972
5	3.63	t-Butanol	152364	1.0077	0.8225
6	4.44	n-Propanol	228588	1.0000	0.8162

16-04-100

28 46



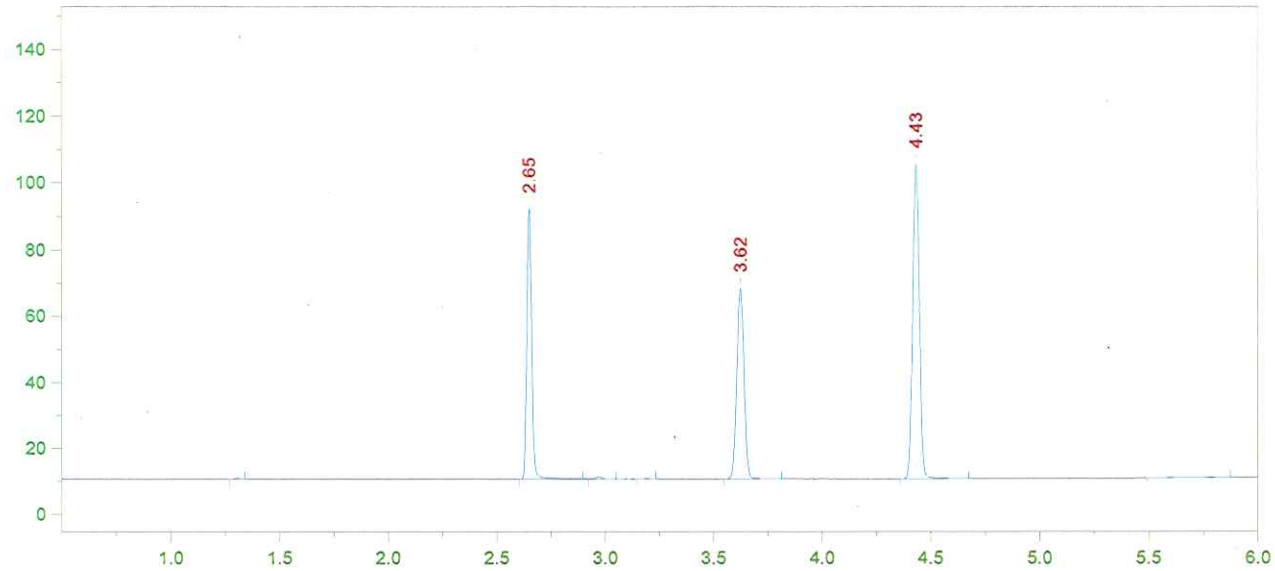
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 5:25:51 PM
Bound File Name = VFL03282016.0013.RAW
Sample Name = 0.1 DP
Date Taken = 3/28/2016 5:25:43 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	129603	0.1202	0.0981
5	3.63	t-Butanol	138965	0.9927	0.8102
6	4.43	n-Propanol	211640	1.0000	0.8162

16-04-100

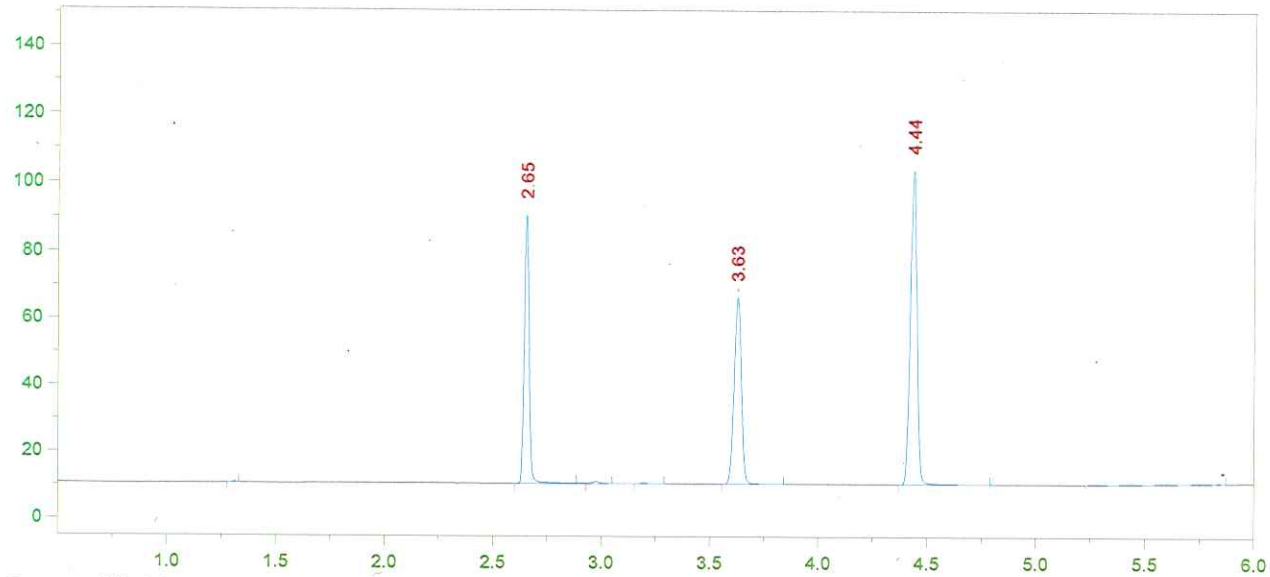
Pg 47



Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 5:42:26 PM
Bound File Name = VFL03282016.0014.RAW
Sample Name = 0.1 DP
Date Taken = 3/28/2016 5:42:22 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

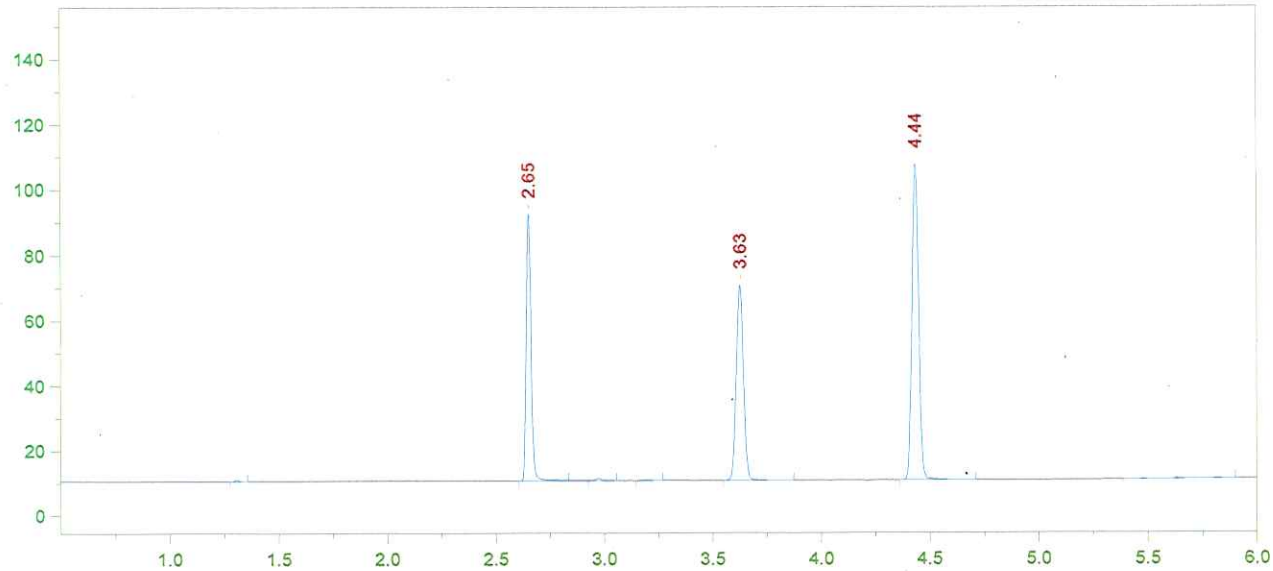
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	125292	0.1221	0.0997
5	3.62	t-Butanol	133181	0.9999	0.8161
6	4.43	n-Propanol	201373	1.0000	0.8162



Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 5:56:36 PM
Bound File Name = VFL03282016.0015.RAW
Sample Name = 0.1 DP
Date Taken = 3/28/2016 5:56:32 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	123028	0.1218	0.0994
5	3.63	t-Butanol	129601	0.9881	0.8065
6	4.44	n-Propanol	198300	1.0000	0.8162



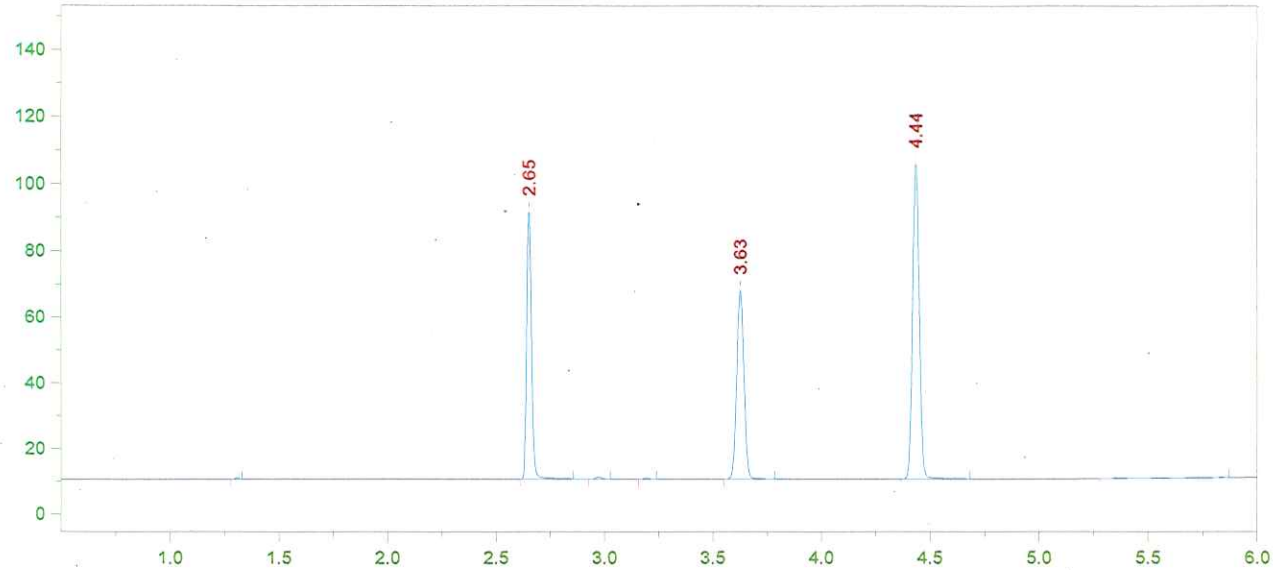
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 6:13:55 PM
Bound File Name = VFL03282016.0016.RAW
Sample Name = 0.1 DP
Date Taken = 3/28/2016 6:13:46 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	126712	0.1204	0.0982
5	3.63	t-Butanol	139001	1.0172	0.8302
6	4.44	n-Propanol	206602	1.0000	0.8162

16-04-100

86 50



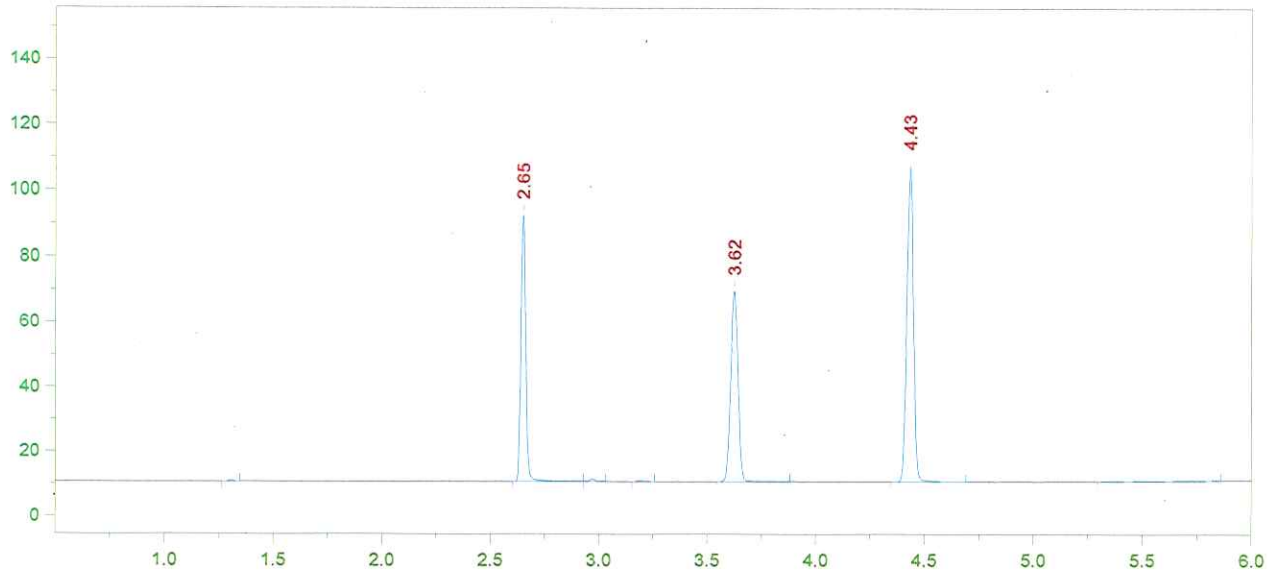
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 6:27:40 PM
Bound File Name = VFL03282016.0017.RAW
Sample Name = 0.1 DP
Date Taken = 3/28/2016 6:27:34 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	125540	0.1214	0.0991
5	3.63	t-Butanol	132107	0.9844	0.8035
6	4.44	n-Propanol	202897	1.0000	0.8162

16-04-100

~~58~~ 51



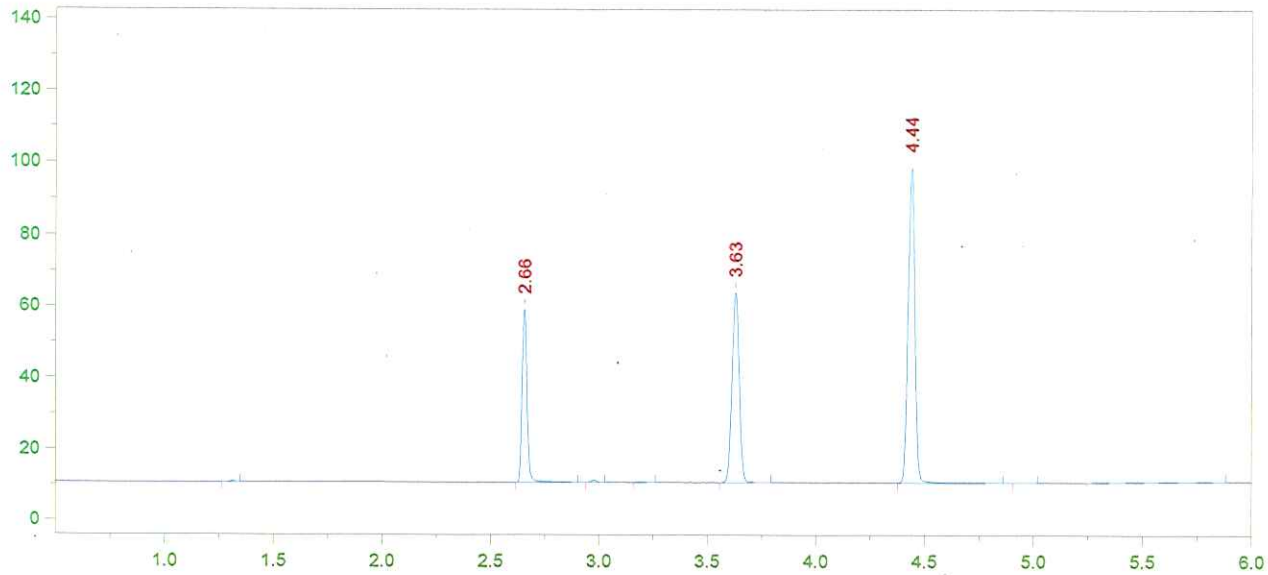
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 6:45:18 PM
Bound File Name = VFL03282016.0018.RAW
Sample Name = 0.1 DP
Date Taken = 3/28/2016 6:45:11 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	125846	0.1211	0.0989
5	3.62	t-Butanol	136224	1.0101	0.8245
6	4.43	n-Propanol	203885	1.0000	0.8162

16-04-100

Dg 52



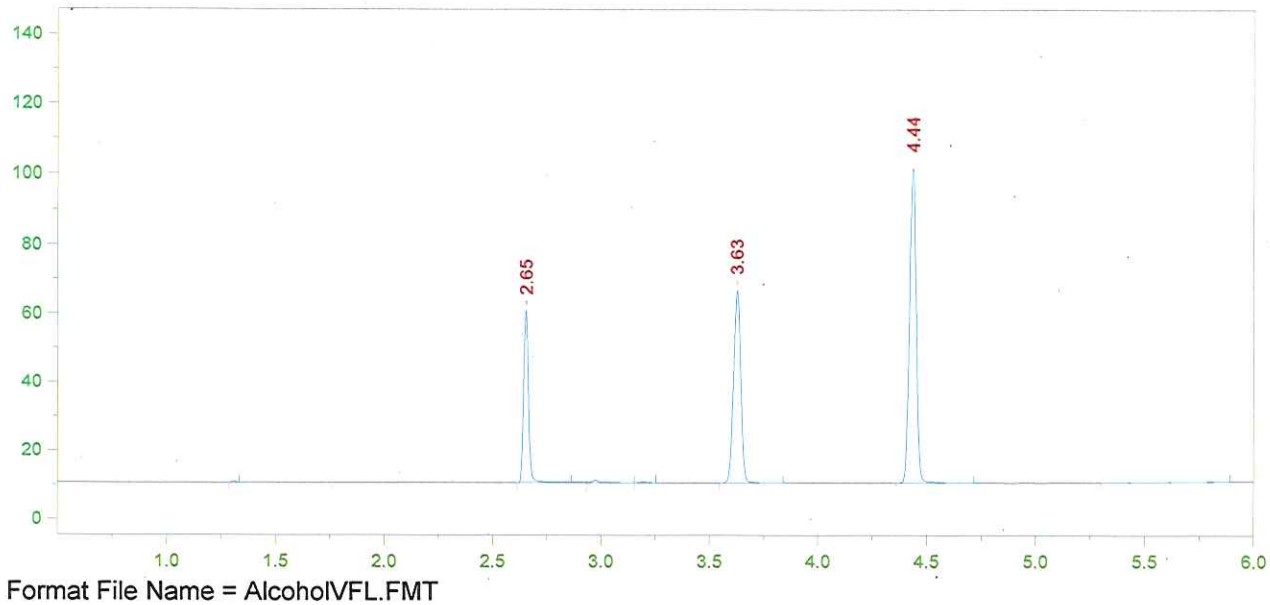
Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 7:00:11 PM
Bound File Name = VFL03282016.0019.RAW
Sample Name = CCS
Date Taken = 3/28/2016 7:00:06 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	75452	0.0789
5	3.63	t-Butanol	122893	0.9897
6	4.44	n-Propanol	187729	1.0000

16-04-100

DS 53



Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 7:16:40 PM
Bound File Name = VFL03282016.0020.RAW
Sample Name = CCS
Date Taken = 3/28/2016 7:16:35 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	77924	0.0789
5	3.63	t-Butanol	129655	1.0116
6	4.44	n-Propanol	193781	1.0000

CCS MEAN: 0.0789

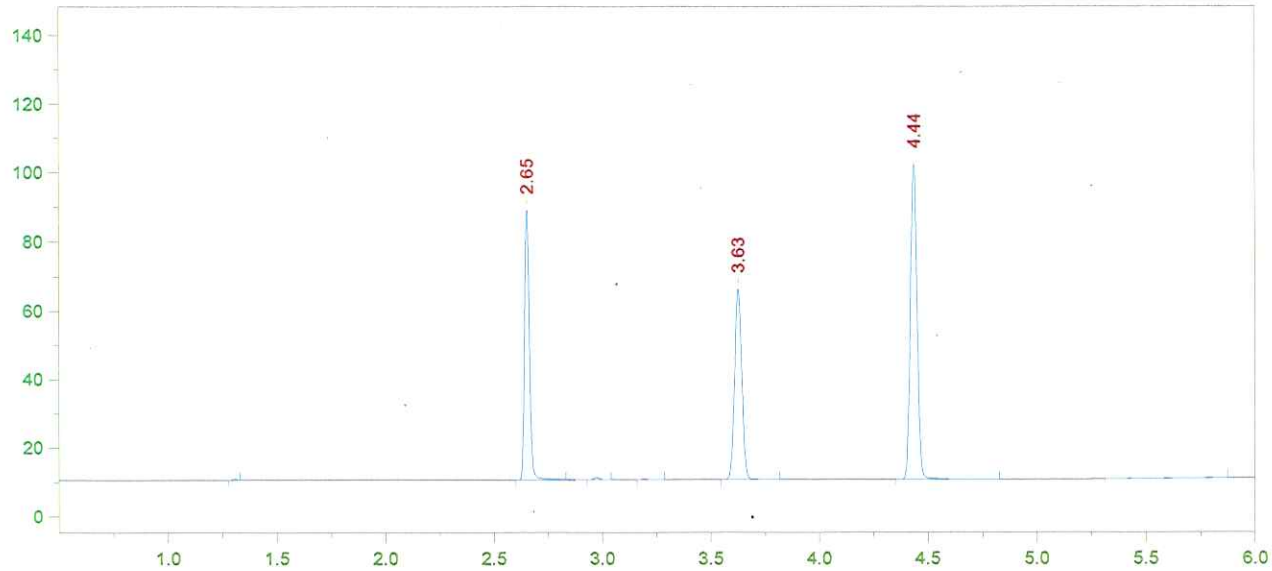
±5%: 0.0749 - 0.0828

Recovery: $\frac{0.079}{0.080}$ = 98.7%

DS 3/29/16

16-04-100

DS 54



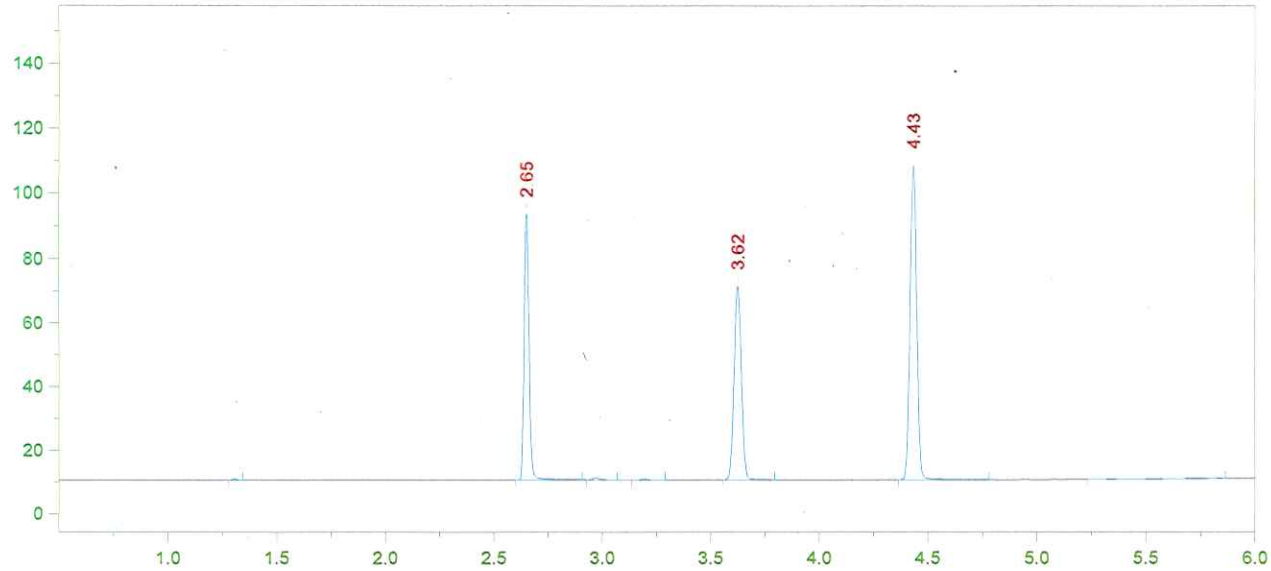
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 7:31:36 PM
Bound File Name = VFL03282016.0021.RAW
Sample Name = 0.1 JD
Date Taken = 3/28/2016 7:31:30 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	121476	0.1222	0.0998
5	3.63	t-Butanol	128438	0.9954	0.8125
6	4.44	n-Propanol	195071	1.0000	0.8162

16-04-100

~~80~~ 55



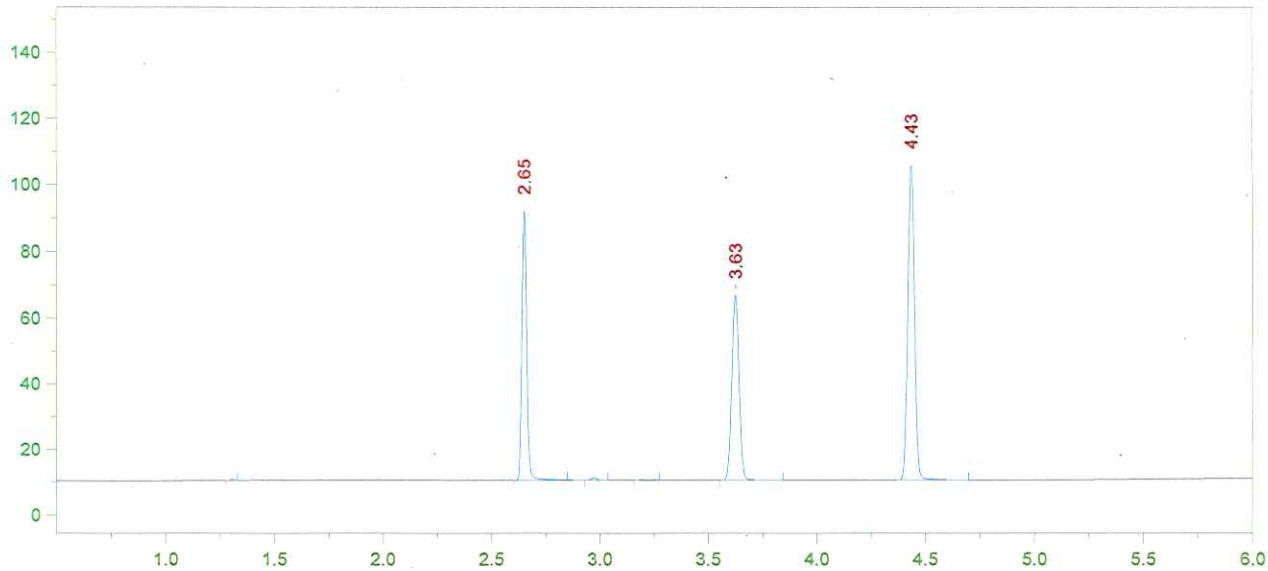
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 7:48:07 PM
Bound File Name = VFL03282016.0022.RAW
Sample Name = 0.1 JD
Date Taken = 3/28/2016 7:47:57 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	127997	0.1204	0.0983
5	3.62	t-Butanol	140832	1.0207	0.8331
6	4.43	n-Propanol	208604	1.0000	0.8162

16-04-100

Dc 56



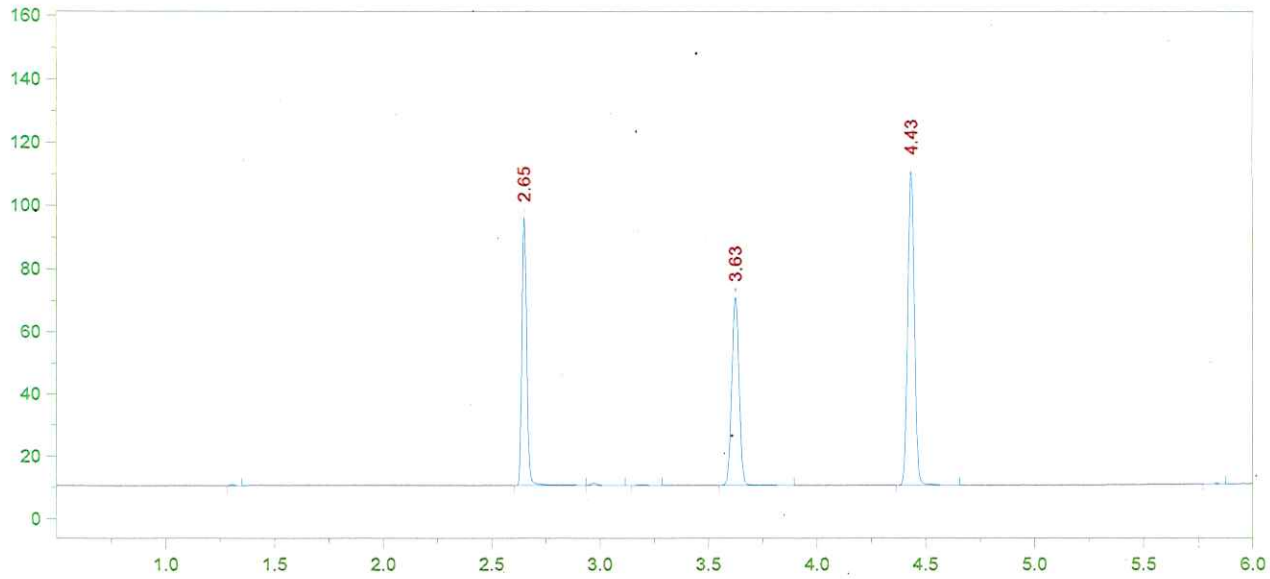
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 8:01:25 PM
Bound File Name = VFL03282016.0023.RAW
Sample Name = 0.1 JD
Date Taken = 3/28/2016 8:01:14 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	125113	0.1213	0.0990
5	3.63	t-Butanol	130757	0.9762	0.7967
6	4.43	n-Propanol	202514	1.0000	0.8162

16-04-100

Ao 57



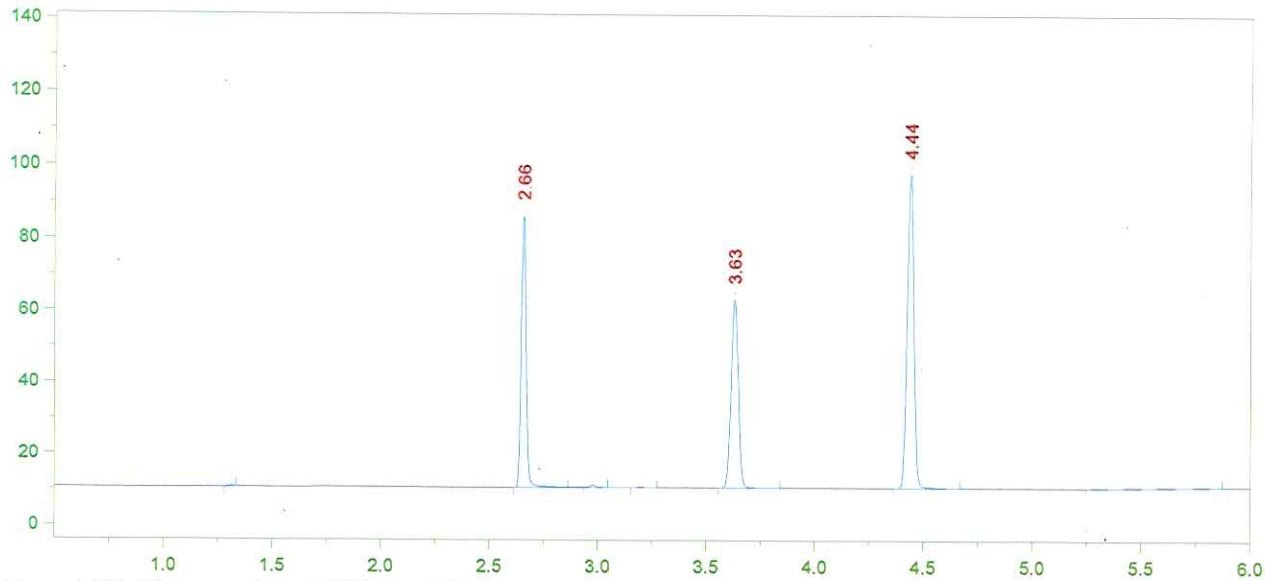
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 8:19:30 PM
Bound File Name = VFL03282016.0024.RAW
Sample Name = 0.1 JD
Date Taken = 3/28/2016 8:19:21 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	131923	0.1220	0.0996
5	3.63	t-Butanol	139692	0.9950	0.8121
6	4.43	n-Propanol	212249	1.0000	0.8162

16-04-100

D-6 58



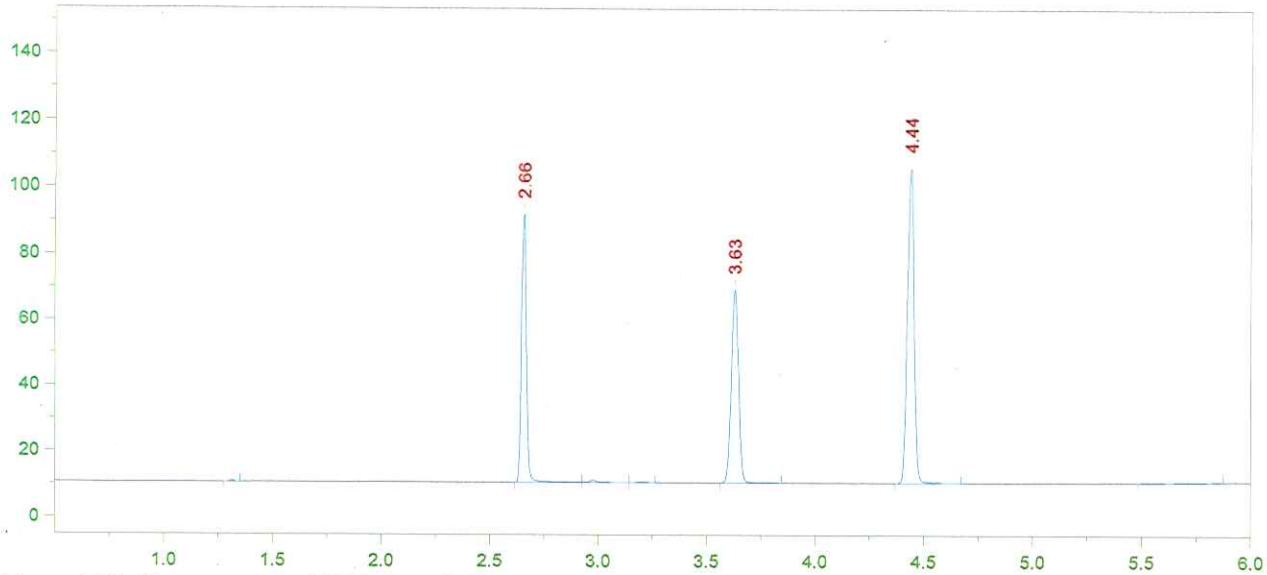
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 8:33:56 PM
Bound File Name = VFL03282016.0025.RAW
Sample Name = 0.1 JD
Date Taken = 3/28/2016 8:33:51 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	116557	0.1232	0.1006
5	3.63	t-Butanol	121493	0.9896	0.8077
6	4.44	n-Propanol	185606	1.0000	0.8162

16-04-100

Ao 59



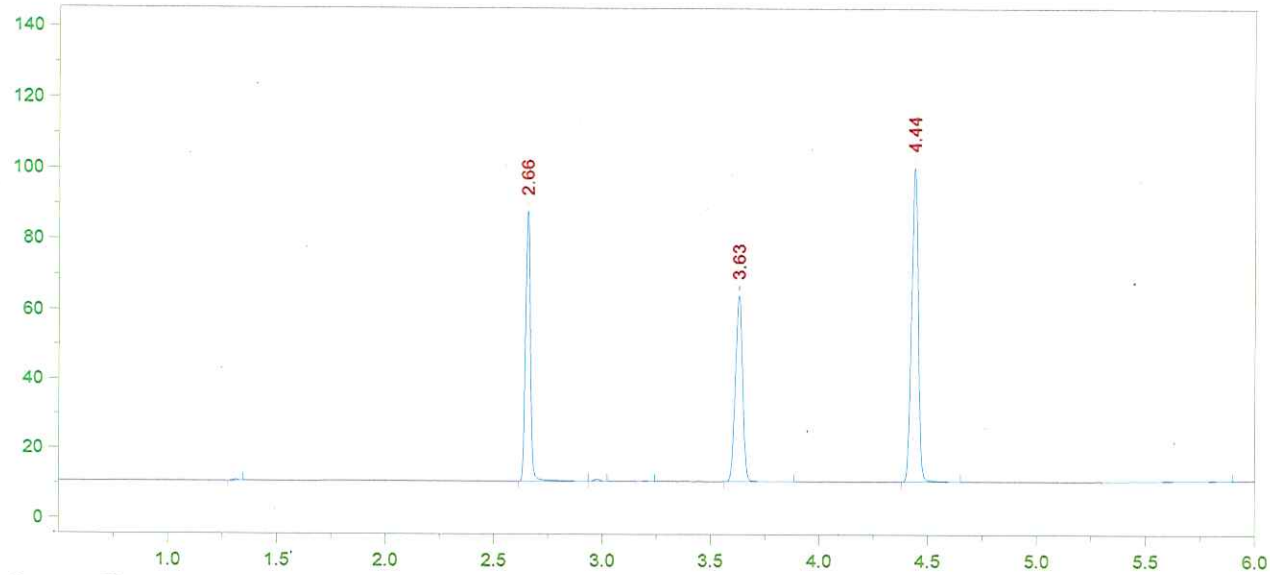
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 8:50:55 PM
Bound File Name = VFL03282016.0026.RAW
Sample Name = 0.1 JD
Date Taken = 3/28/2016 8:50:47 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	125984	0.1219	0.0995
5	3.63	t-Butanol	135321	1.0087	0.8233
6	4.44	n-Propanol	202824	1.0000	0.8162

16-04-100

Ds 60



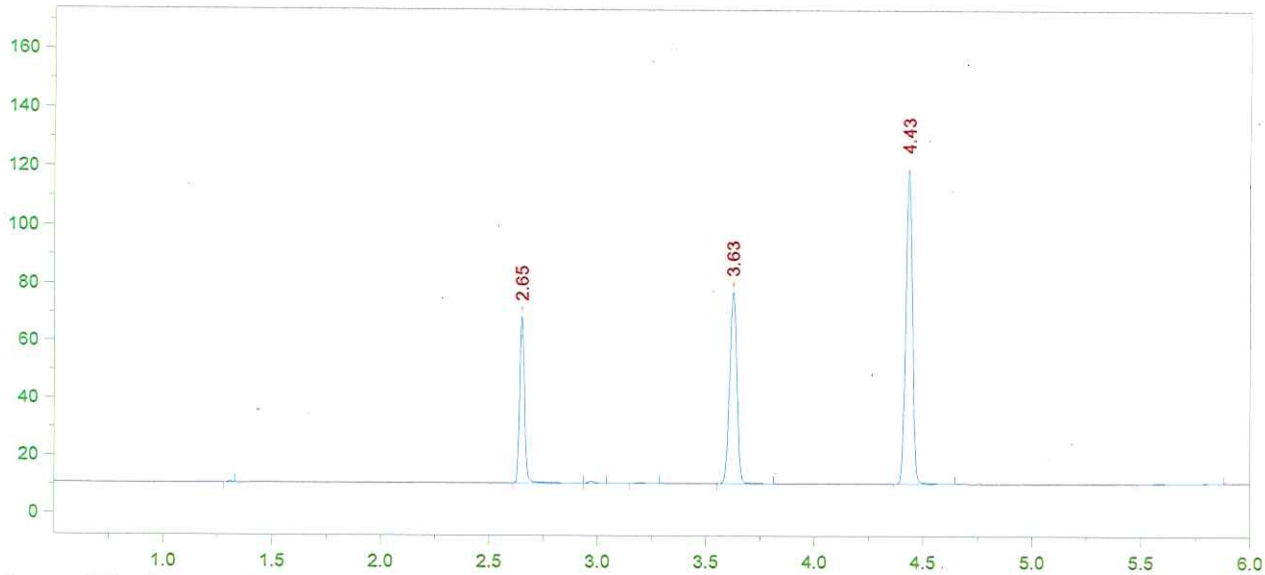
Format File Name = simsolnVFL.met.FMT

Today's Date = 3/28/2016
Today's Time = 9:05:20 PM
Bound File Name = VFL03282016.0027.RAW
Sample Name = 0.1 JD
Date Taken = 3/28/2016 9:05:13 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	119789	0.1234	0.1007
5	3.63	t-Butanol	123625	0.9807	0.8005
6	4.44	n-Propanol	190581	1.0000	0.8162

16-04-100

Pg 61



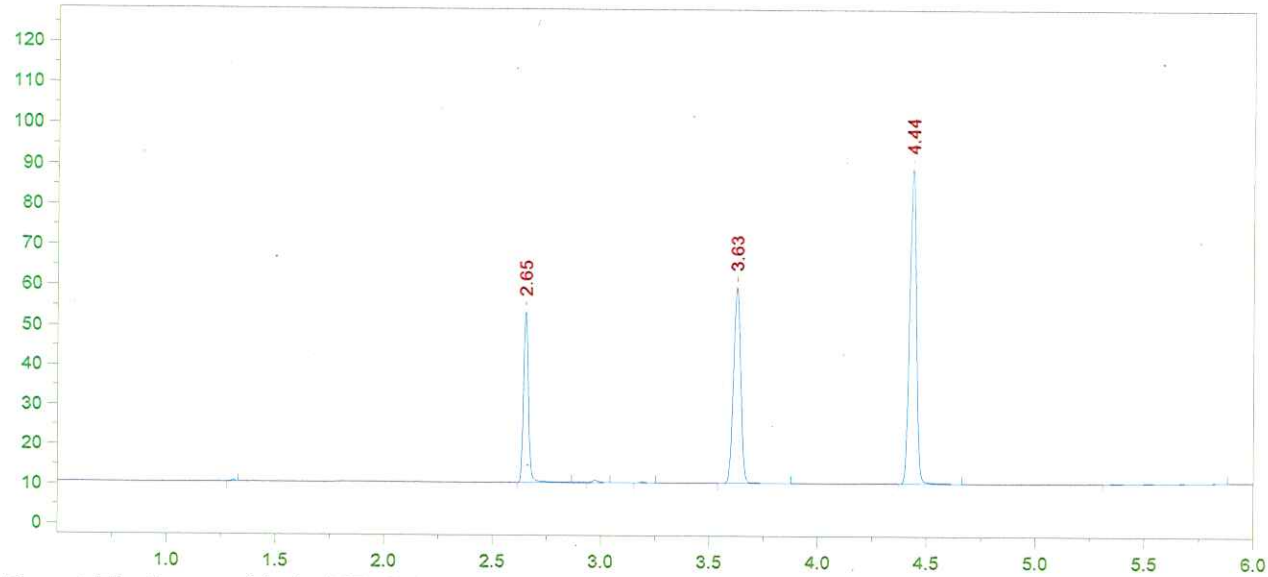
Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 9:20:36 PM
Bound File Name = VFL03282016.0028.RAW
Sample Name = CCS
Date Taken = 3/28/2016 9:20:32 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	89957	0.0765
5	3.63	t-Butanol	154315	1.0115
6	4.43	n-Propanol	230656	1.0000

16-04-100

DS 62



Format File Name = AlcoholVFL.FMT

Today's Date = 3/28/2016
Today's Time = 9:35:29 PM
Bound File Name = VFL03282016.0029.RAW
Sample Name = CCS
Date Taken = 3/28/2016 9:35:22 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL03282016.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	67223	0.0789
5	3.63	t-Butanol	114024	1.0310
6	4.44	n-Propanol	167211	1.0000

CCS MEAN: 0.0777

±5%: 0.0738-0.0816

RECOVERY: $\frac{0.078}{0.080} = 97.5\%$

3/29/16

16-04-100

26 63