VERMONT FORENSIC LABORATORY

SIMULATOR SOLUTION REVIEW CHECKLIST

SOLUTION TYPE AND VOLUME: 0.16 CERTIFICATION SOLUTION 2L

LOT NUMBER#: 15-27-160 **ANALYST:** DP

TECHNICAL REVIEWER: [signature] **DATE:** 12/29/15

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

Comments:

ADMINISTRATIVE REVIEWER: [signature] **DATE:** 12/29/15

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

Comments:

Check Mark or X = pass, NA= Not Applicable

VERMONT FORENSIC LABORATORY

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

Certificate of Analysis of DataMaster Certification Solution

On 12/21/2015, an ethanol solution was prepared by ~~Amanda Bolduc~~ Jeffrey Dukette for use as a DataMaster Certification solution. The solution was prepared per standard laboratory practice and assigned the lot number 15-27-160 and an expiration date of 12/21/2016.

On 12/21/2015 and 12/23/2015, the solution was analyzed against calibration VFL12212015 and VFL12232015. 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 0.160 g/210L simulated breath ethanol concentration and approved for use as a DataMaster Certification solution.

Dated at Waterbury, Vermont this 30TH day of December, 2015.

~~Amanda Bolduc~~ 12/21/15
David Palmer
12/21/15

DataMaster Certification Solution
Lot # 15-27-160 EtOHaq Conc: 0.160 g/210L
Range: 0.152 - 0.168
Preparation Date: 12/21/15 Expires: 12/21/16

OPENED:

DataMaster Certification Solution
Lot # 15-27-160 EtOHaq Conc: 0.160 g/210L
Range: 0.152 - 0.168
Preparation Date: 12/21/15 Expires: 12/21/16

OPENED:

DataMaster Certification Solution
Lot # 15-27-160 EtOHaq Conc: 0.160 g/210L
Range: 0.152 - 0.168
Preparation Date: 12/21/15 Expires: 12/21/16

OPENED:

DataMaster Certification Solution
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Range: 0.152 - 0.168
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DataMaster Certification Solution
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Range: 0.152 - 0.168
Preparation Date: 12/21/15 Expires: 12/21/16

OPENED:

VERMONT FORENSIC LABORATORY
Simulator Solution Worksheet

0.160 Certification Solution 2L
Lot # 15-27-160
Prepared 12/21/2015 by JSD
Exp 12/21/2016

DJP CAL VFL12212015
DJP/JSD Vials
Analyzed on 12/21/2015

0.1601	DJP
0.1643	
0.1604	
0.1636	
0.1599	
0.1634	
0.1596	
0.1620	JSD
0.1584	
0.1624	
0.1597	
0.1623	
0.1595	
0.1599	

Ave. =	0.1611
Std Dev. =	0.0018
Min. =	0.1584
Max. =	0.1643

AQ QC Manf.	Cerilliant
AQ QC Lot #	FN09051304
Cal Std A Lot #	FN01131401
Cal Std B Lot #	FN08101401
Cal Std C Lot #	FN05211402
Cal Std D Lot #	FN12011401
Cal Std E Lot #	FN11191402
Int Std Lot #	IS-09292015
TMX Lot #	TMX-08142015
Blank Lot	BL-011620'5

12/24/15

DJP CAL VFL12232015
DJP/JSD Vials
Analyzed on 12/23/2015

0.1584	DJP
0.1617	
0.1585	
0.1617	
0.1588	
0.1607	
0.1579	
0.1595	JSD
0.1584	
0.1609	
0.1588	
0.1595	
0.1588	
0.1605	

Ave. =	0.1596
Std Dev. =	0.0013
Min. =	0.1579
Max. =	0.1617

AQ QC Manf.	Cerilliant
AQ QC Lot #	FN09051304
Cal Std A Lot #	FN01131401
Cal Std B Lot #	FN08101401
Cal Std C Lot #	FN05211402
Cal Std D Lot #	FN12011401
Cal Std E Lot #	FN11191402
Int Std Lot #	IS-09292015
TMX Lot #	TMX-08142015
Blank Lot #	BL-011620'5

Total Values from Both Runs

Average	Mean
0.1601	0.1579
0.1643	0.1584
0.1604	
0.1636	
0.1599	0.1585
0.1634	0.1588
0.1596	
0.1620	
0.1584	0.1595
0.1624	
0.1597	
0.1623	0.1596
0.1595	0.1597
0.1599	0.1599
0.1584	
0.1617	0.1601
0.1585	0.1604
0.1617	0.1605
0.1588	0.1607
0.1607	0.1609
0.1579	0.1617
0.1595	
0.1584	0.1620
0.1609	0.1623
0.1588	0.1624
0.1595	0.1634
0.1588	0.1636
0.1605	0.1643

Ave. =	0.1603
Avg Std Dev. =	0.0017
Mean =	0.1607
Mean Std Dev. =	0.0018
Min. =	0.1579
Max =	0.1643
RPD =	3.99%

15-27-160

1 of 67

File Name = C:\Alcohol Data\VFL12212015\VFL12212015.SEQ
Version = 6
File Date = 12/22/2015 8:15:16 AM

Entry #	Raw File Name	Method File Name	Sample Name	Sample Wt.	Int. Std. Amount
1	VFL12212015.0001.raw	Blood Alc temp VFL.MET	BLANK	1.00	1.00
2	VFL12212015.0002.raw	Blood Alc temp VFL.MET	TMX	1.00	1.00
3	VFL12212015.0003.raw	Blood Alc temp VFL.MET	STD A	1.00	1.00
4	VFL12212015.0004.raw	Blood Alc temp VFL.MET	STD B	1.00	1.00
5	VFL12212015.0005.raw	Blood Alc temp VFL.MET	STD C	1.00	1.00
6	VFL12212015.0006.raw	Blood Alc temp VFL.MET	STD D	1.00	1.00
7	VFL12212015.0007.raw	Blood Alc temp VFL.MET	STD E	1.00	1.00
8	VFL12212015.0008.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
9	VFL12212015.0009.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
10	VFL12212015.0010.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
11	VFL12212015.0011.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
12	VFL12212015.0012.raw	simsoln.met	0.16 DP	1.00	1.00
13	VFL12212015.0013.raw	simsoln.met	0.16 DP	1.00	1.00
14	VFL12212015.0014.raw	simsoln.met	0.16 DP	1.00	1.00
15	VFL12212015.0015.raw	simsoln.met	0.16 DP	1.00	1.00
16	VFL12212015.0016.raw	simsoln.met	0.16 DP	1.00	1.00
17	VFL12212015.0017.raw	simsoln.met	0.16 DP	1.00	1.00
18	VFL12212015.0018.raw	simsoln.met	0.16 DP	1.00	1.00
19	VFL12212015.0019.raw	simsoln.met	0.16 JD	1.00	1.00
20	VFL12212015.0020.raw	simsoln.met	0.16 JD	1.00	1.00
21	VFL12212015.0021.raw	simsoln.met	0.16 JD	1.00	1.00
22	VFL12212015.0022.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
23	VFL12212015.0023.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
24	VFL12212015.0024.raw	simsoln.met	0.16 JD	1.00	1.00
25	VFL12212015.0025.raw	simsoln.met	0.16 JD	1.00	1.00
26	VFL12212015.0026.raw	simsoln.met	0.16 JD	1.00	1.00
27	VFL12212015.0027.raw	simsoln.met	0.16 JD	1.00	1.00
28	VFL12212015.0028.raw	simsoln.met	0.40 DP	1.00	1.00
29	VFL12212015.0029.raw	simsoln.met	0.40 DP	1.00	1.00
30	VFL12212015.0030.raw	simsoln.met	0.40 DP	1.00	1.00
31	VFL12212015.0031.raw	simsoln.met	0.40 DP	1.00	1.00
32	VFL12212015.0032.raw	simsoln.met	0.40 DP	1.00	1.00
33	VFL12212015.0033.raw	simsoln.met	0.40 DP	1.00	1.00
34	VFL12212015.0034.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
35	VFL12212015.0035.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
36	VFL12212015.0036.raw	simsoln.met	0.40 DP	1.00	1.00
37	VFL12212015.0037.raw	simsoln.met	0.40 JD	1.00	1.00
38	VFL12212015.0038.raw	simsoln.met	0.40 JD	1.00	1.00
39	VFL12212015.0039.raw	simsoln.met	0.40 JD	1.00	1.00
40	VFL12212015.0040.raw	simsoln.met	0.40 JD	1.00	1.00
41	VFL12212015.0041.raw	simsoln.met	0.40 JD	1.00	1.00
42	VFL12212015.0042.raw	simsoln.met	0.40 JD	1.00	1.00
43	VFL12212015.0043.raw	simsoln.met	0.40 JD	1.00	1.00
44	VFL12212015.0044.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
45	VFL12212015.0045.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00

15-27-160

2

File Name: C:\Methods\VFL12212015.CAL
Version: 8

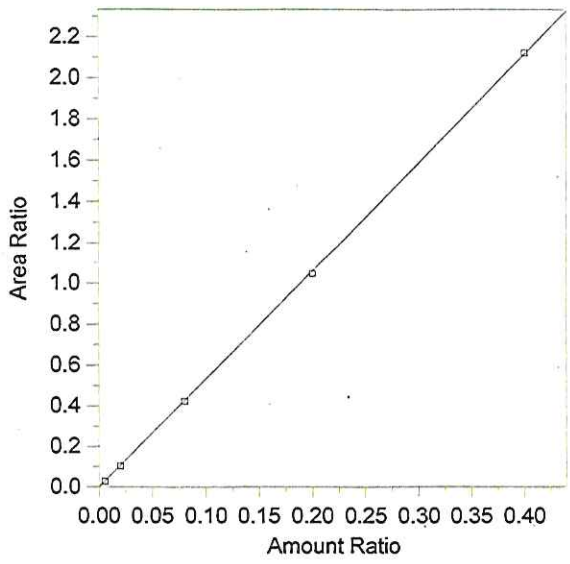
Creator:
Description:
Reason for change:

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

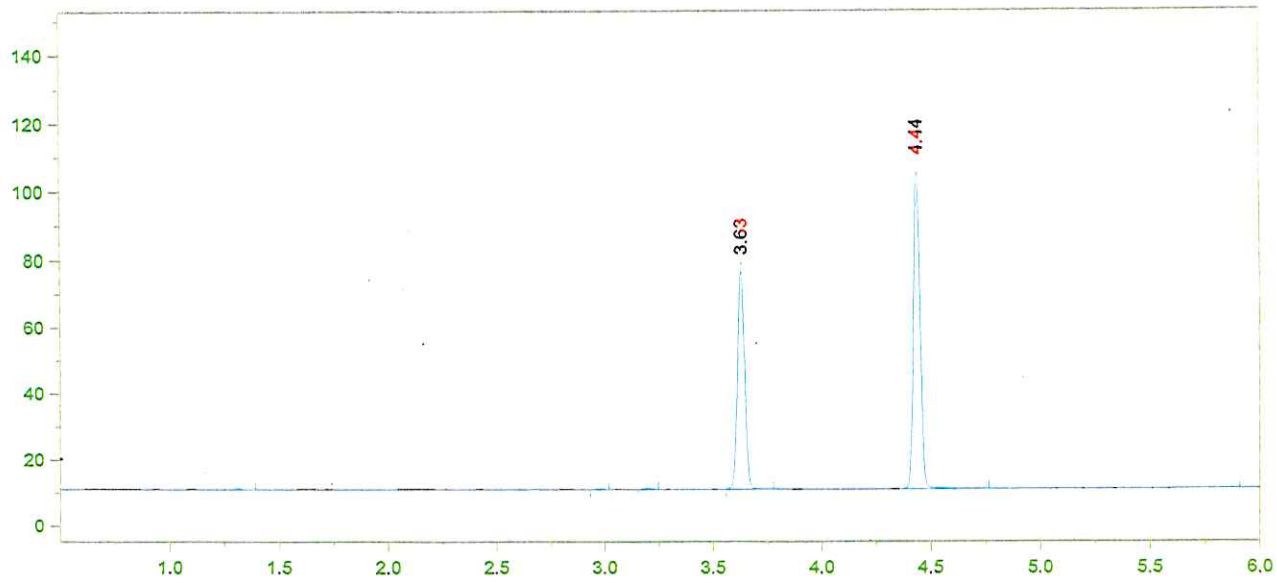
Single peak quantification by area

$Y = 5.284439 X + 0$

Linear fit with equal weighting, forced to origin
Coefficient of determination: 0.9999316
Average error: 1.796%
Average CF: 5.266081
RSD: 2.486%

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	5636.866	1127373	3.307	0.005	2.729589E-02	C:\Alcohol Data\VFL12212015\VFL12212015.0003.BND	12/22/2015 9:27:53 AM
3	0.02	18237.41	911870.5	-3.515	0.02	0.1019734	C:\Alcohol Data\VFL12212015\VFL12212015.0004.BND	12/22/2015 9:27:59 AM
4	0.08	79395.03	992437.9	-0.733	0.08	0.4196545	C:\Alcohol Data\VFL12212015\VFL12212015.0005.BND	12/22/2015 9:28:05 AM
5	0.2	197595.4	987977	-1.110	0.2	1.045157	C:\Alcohol Data\VFL12212015\VFL12212015.0006.BND	12/22/2015 9:28:11 AM
6	0.4	394378.2	985945.4	0.315	0.4	2.120436	C:\Alcohol Data\VFL12212015\VFL12212015.0007.BND	12/22/2015 9:28:19 AM

15-27-160 3



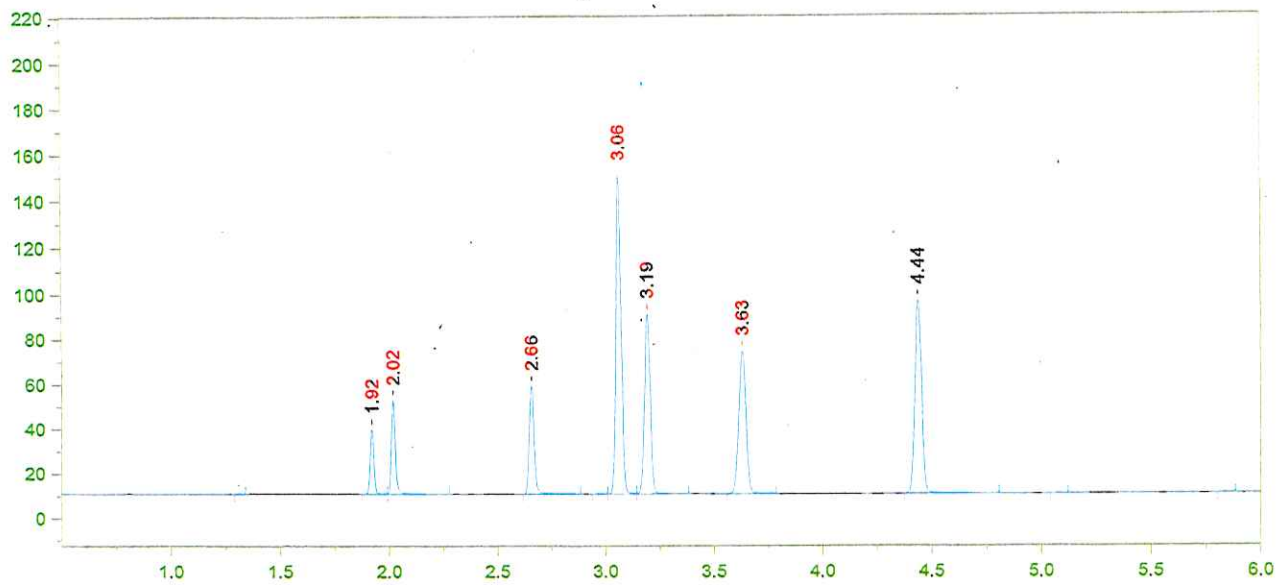
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:15:34 AM
Bound File Name = VFL12212015.0001.RAW
Sample Name = BLANK
Date Taken = 12/21/2015 1:53:13 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
5	3.63	t-Butanol	150975	0.9637
6	4.44	n-Propanol	200590	1.0000

15-27-1600

4



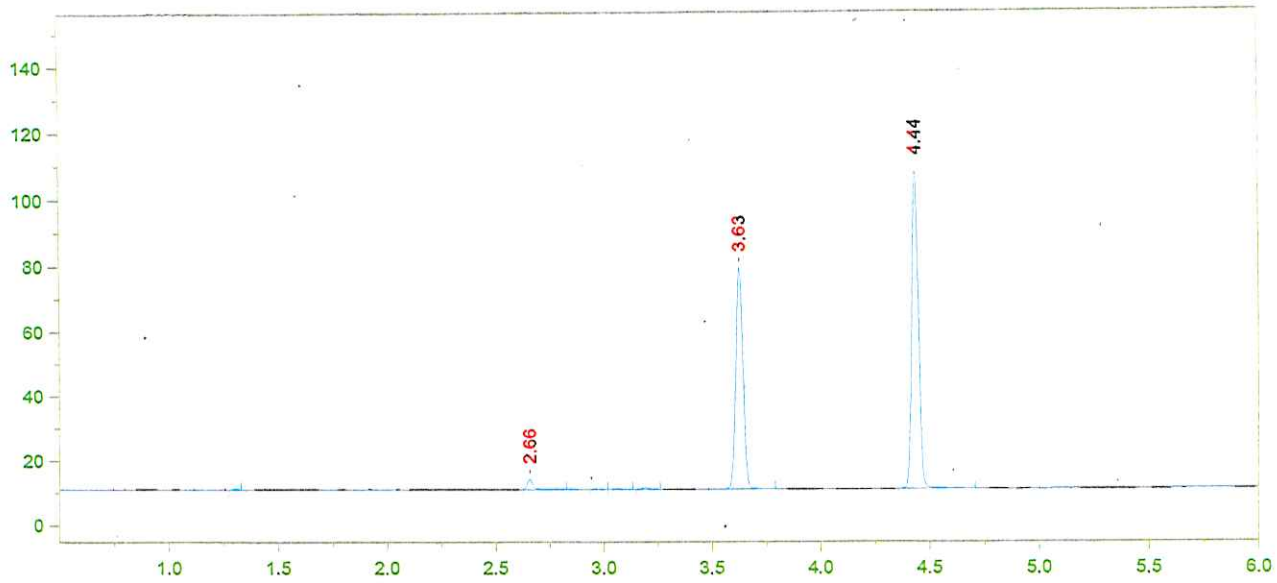
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015 Today's Time = 8:15:43 AM
Bound File Name = VFL12212015.0002.RAW
Sample Name = TMX
Date Taken = 12/21/2015 2:10:42 PM VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	1.92	Acetaldehyde	34203	0.0686
4	2.02	Methanol	53540	0.1169
5	2.66	Ethanol	74901	0.0773
7	3.06	Acetone	237863	0.0612
8	3.19	Isopropanol	150127	0.0780
9	3.63	t-Butanol	146592	1.0243
10	4.44	n-Propanol	183246	1.0000

15-27-160

5



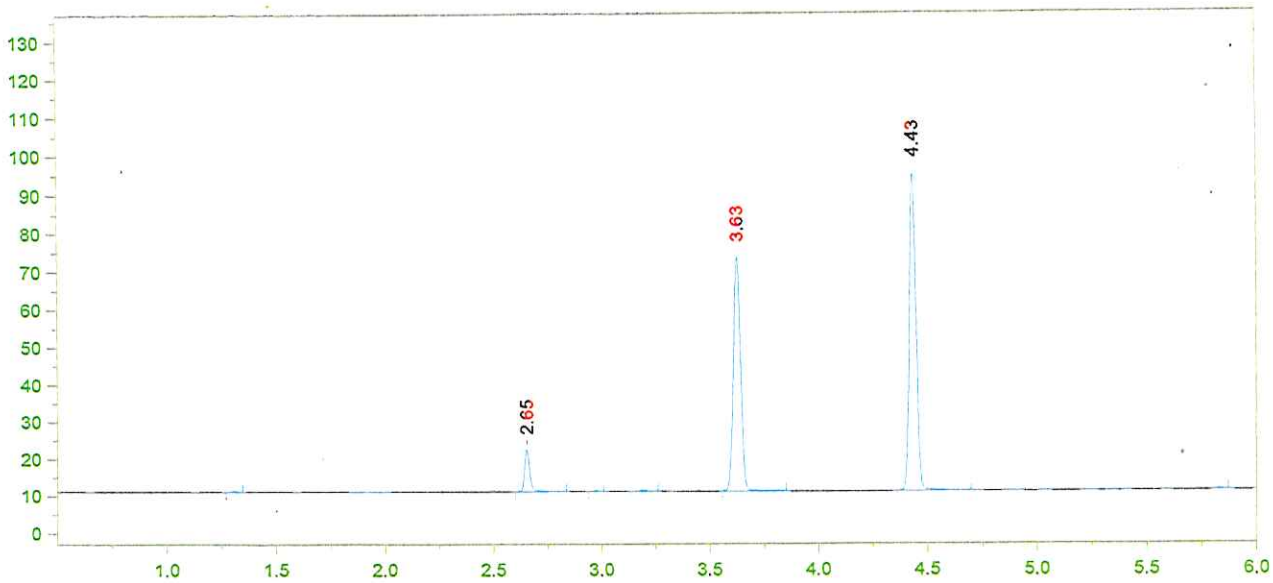
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:15:48 AM
Bound File Name = VFL12212015.0003.RAW
Sample Name = STD A
Date Taken = 12/21/2015 2:24:30 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	05637	0.0052
6	3.63	t-Butanol	157418	0.9761
7	4.44	n-Propanol	206510	1.0000

15-27-160

6

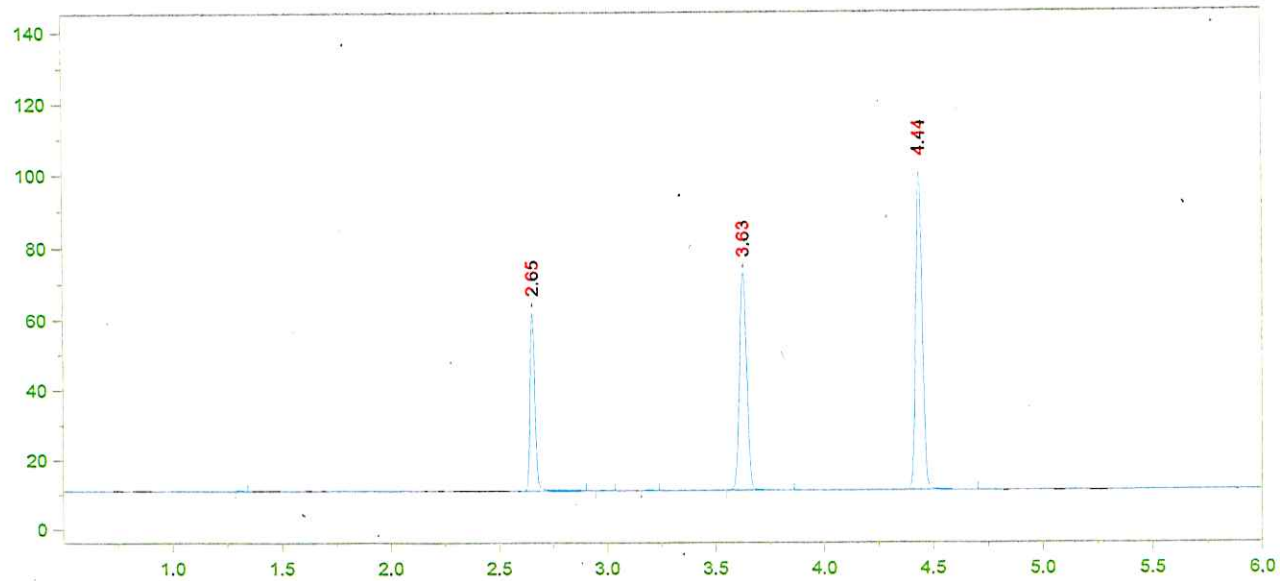


Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:15:54 AM
Bound File Name = VFL12212015.0004.RAW
Sample Name = STD B
Date Taken = 12/21/2015 2:42:06 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	18237	0.0193
5	3.63	t-Butanol	144476	1.0344
6	4.43	n-Propanol	178845	1.0000

15-27160



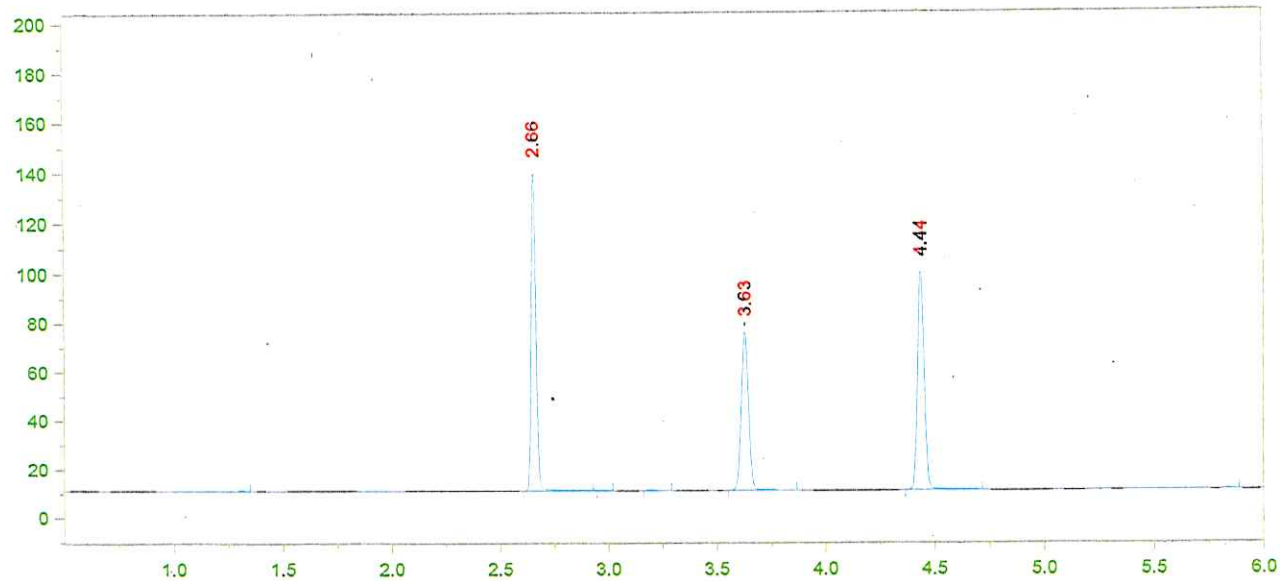
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:00 AM
Bound File Name = VFL12212015.0005.RAW
Sample Name = STD C
Date Taken = 12/21/2015 2:55:54 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	79395	0.0794
5	3.63	t-Butanol	143541	0.9715
6	4.44	n-Propanol	189191	1.0000

15-27-160

8



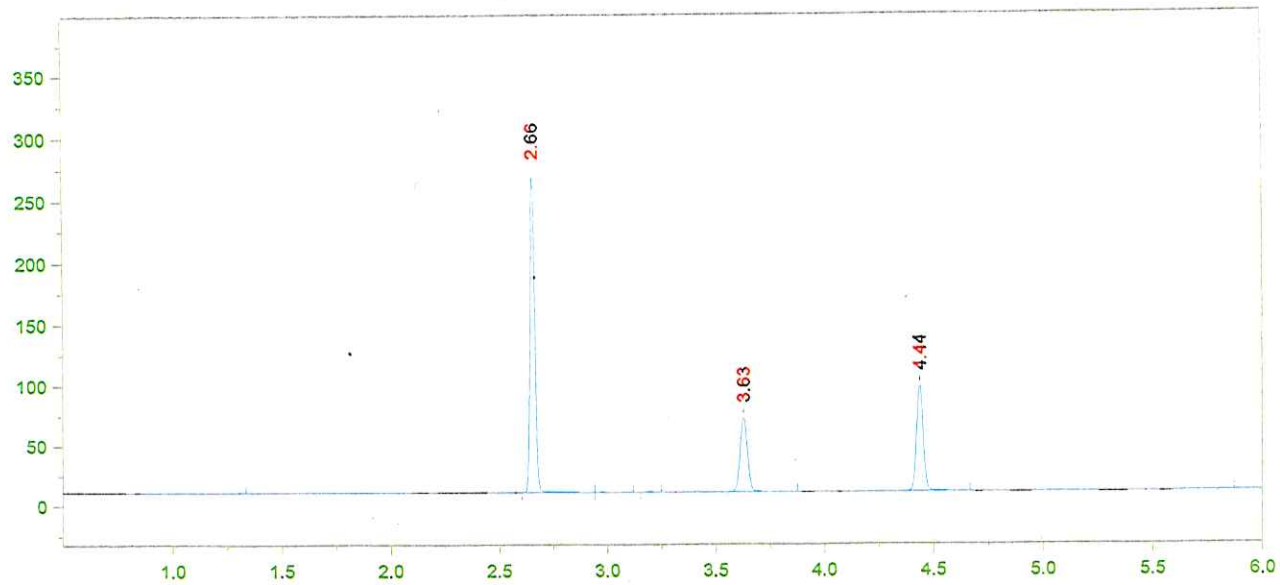
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:06 AM
Bound File Name = VFL12212015.0006.RAW
Sample Name = STD D
Date Taken = 12/21/2015 3:11:55 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	2.66	Ethanol	197595	0.1978
6	3.63	t-Butanol	149358	1.0116
7	4.44	n-Propanol	189058	1.0000

15-27-160

8 9



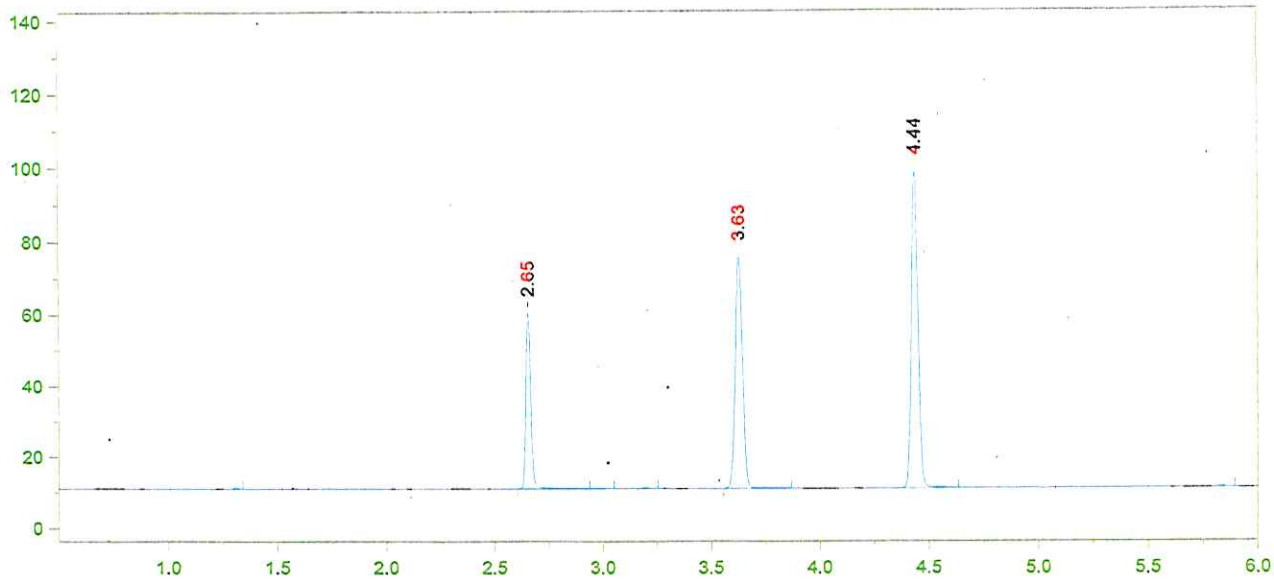
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:11 AM
Bound File Name = VFL12212015.0007.RAW
Sample Name = STD E
Date Taken = 12/21/2015 3:27:24 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	394378	0.4013
5	3.63	t-Butanol	142664	0.9822
6	4.44	n-Propanol	185989	1.0000

15-27-160

10

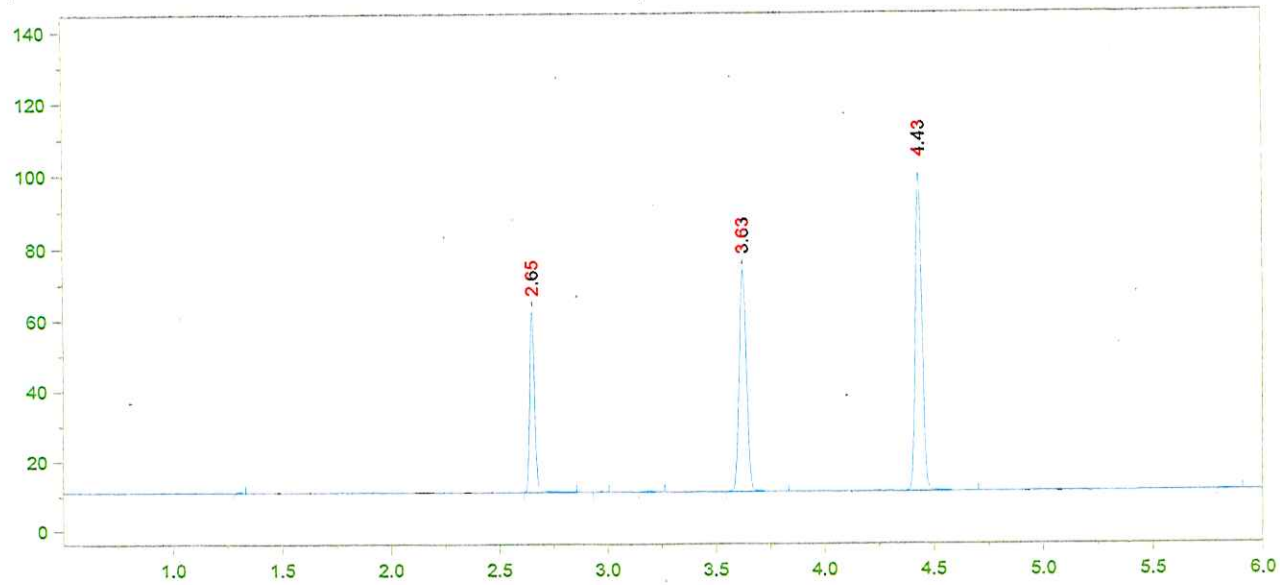


Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:19 AM
Bound File Name = VFL12212015.0008.RAW
Sample Name = AQ
Date Taken = 12/21/2015 3:43:19 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	76888	0.0787
5	3.63	t-Butanol	149510	1.0355
6	4.44	n-Propanol	184883	1.0000

15-27-160



Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Bound File Name = VFL12212015.0009.RAW
Sample Name = AQ
Date Taken = 12/21/2015 3:57:45 PM
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL

Today's Time = 8:16:25 AM

VFL Headspace Alcohol

Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	79943	0.0802
5	3.63	t-Butanol	144777	0.9824
6	4.43	n-Propanol	188693	1.0000

AQ MEAN: 0.0794 g/100 ml EOD

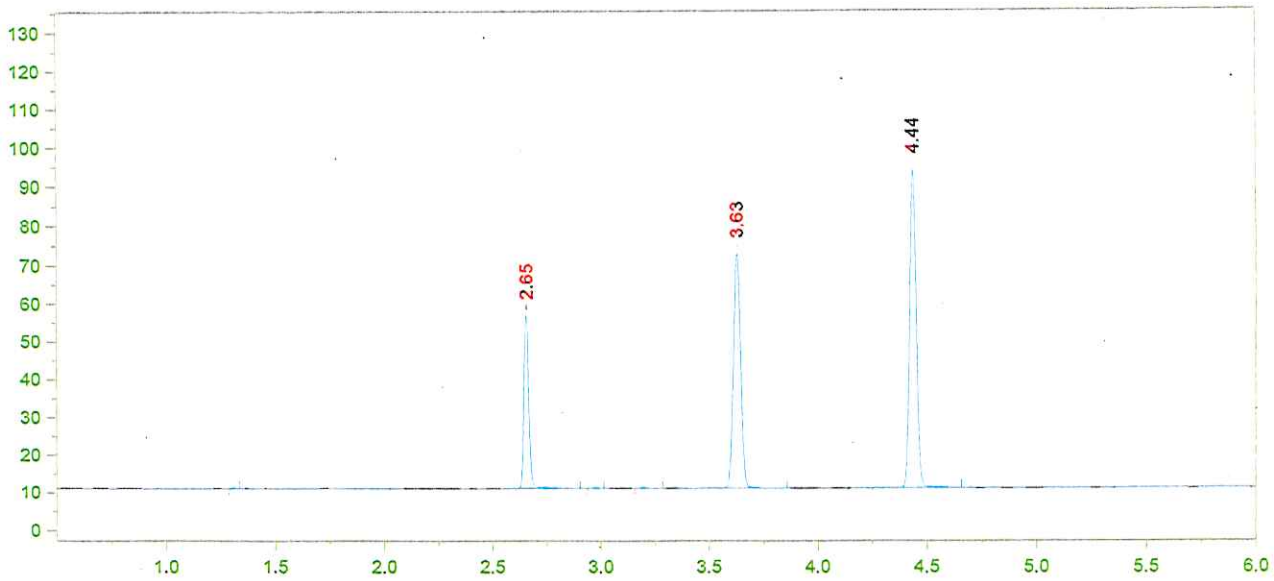
±5% : 0.0754 - 0.0834

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

[illegible] 12/22/15

15-27-160

12



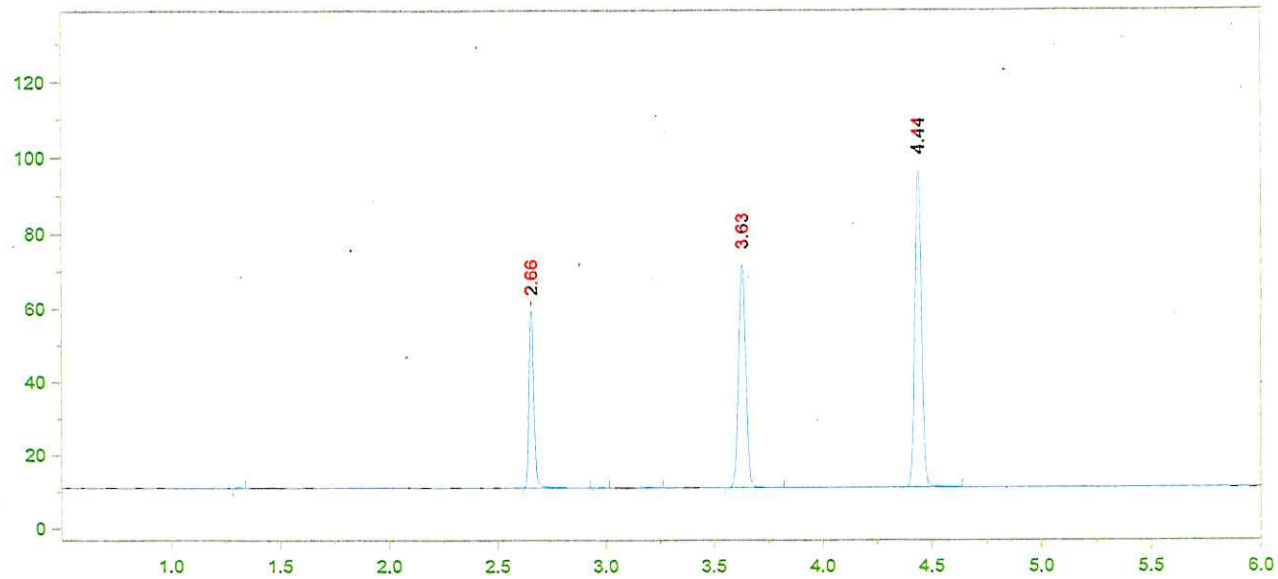
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:31 AM
Bound File Name = VFL12212015.0010.RAW
Sample Name = CCS
Date Taken = 12/21/2015 4:14:42 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	71400	0.0768
5	3.63	t-Butanol	142647	1.0381
6	4.44	n-Propanol	175951	1.0000

15-27-160

13



Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Bound File Name = VFL12212015.0011.RAW
Sample Name = CCS
Date Taken = 12/21/2015 4:28:42 PM
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL

Today's Time = 8:16:37 AM

VFL Headspace Alcohol

Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	75255	0.0784
5	3.63	t-Butanol	139296	0.9819
6	4.44	n-Propanol	181653	1.0000

CCS MEAN: 0.0776 g/100ml EtOH

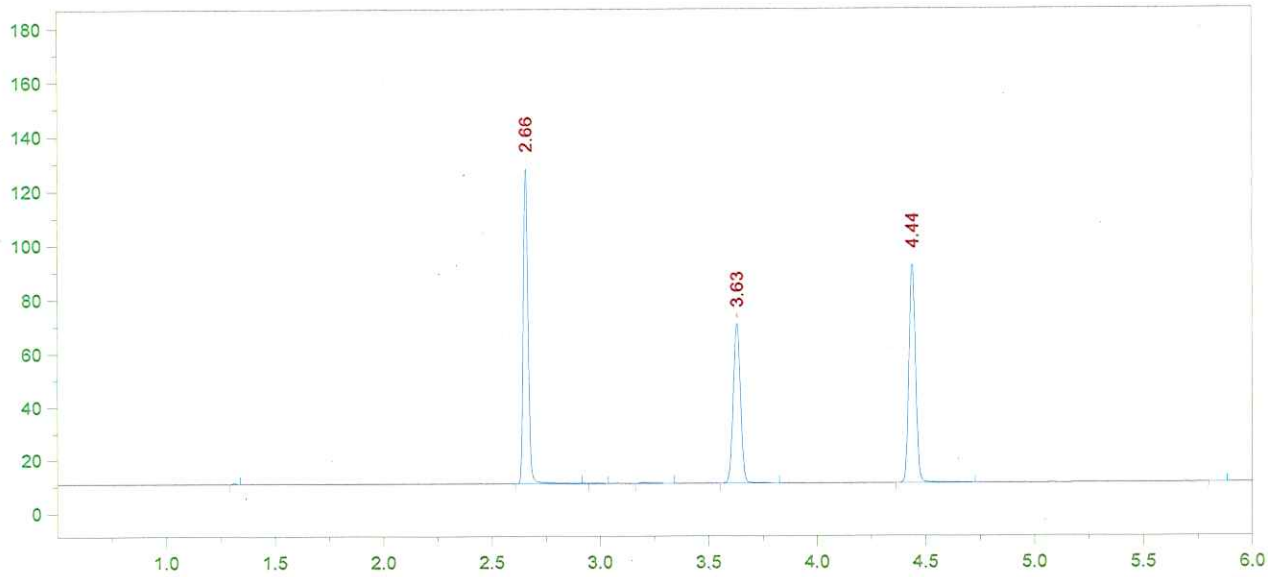
±5%: 0.0737 - 0.0815

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

[signature] 12/22/15

15-27-160

[signature] 14



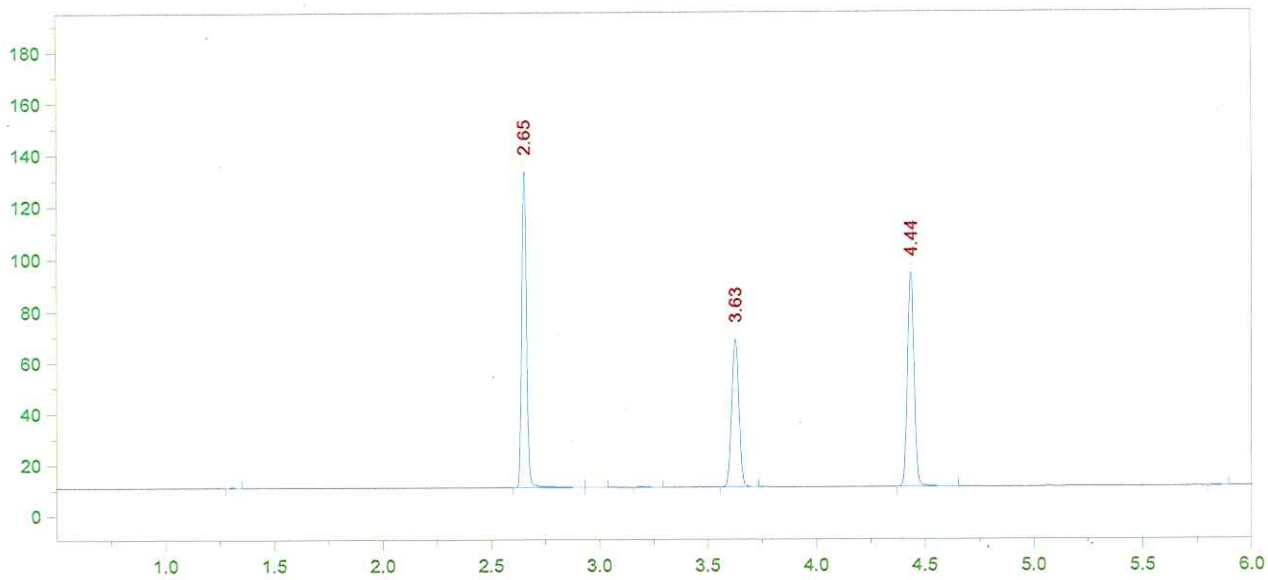
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:44 AM
Bound File Name = VFL12212015.0012.RAW
Sample Name = 0.16 DP
Date Taken = 12/21/2015 4:46:05 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.66	Ethanol	179252	0.1961	0.1601
6	3.63	t-Butanol	138454	1.0251	0.8367
7	4.44	n-Propanol	172946	1.0000	0.8162

15-27-1600

15



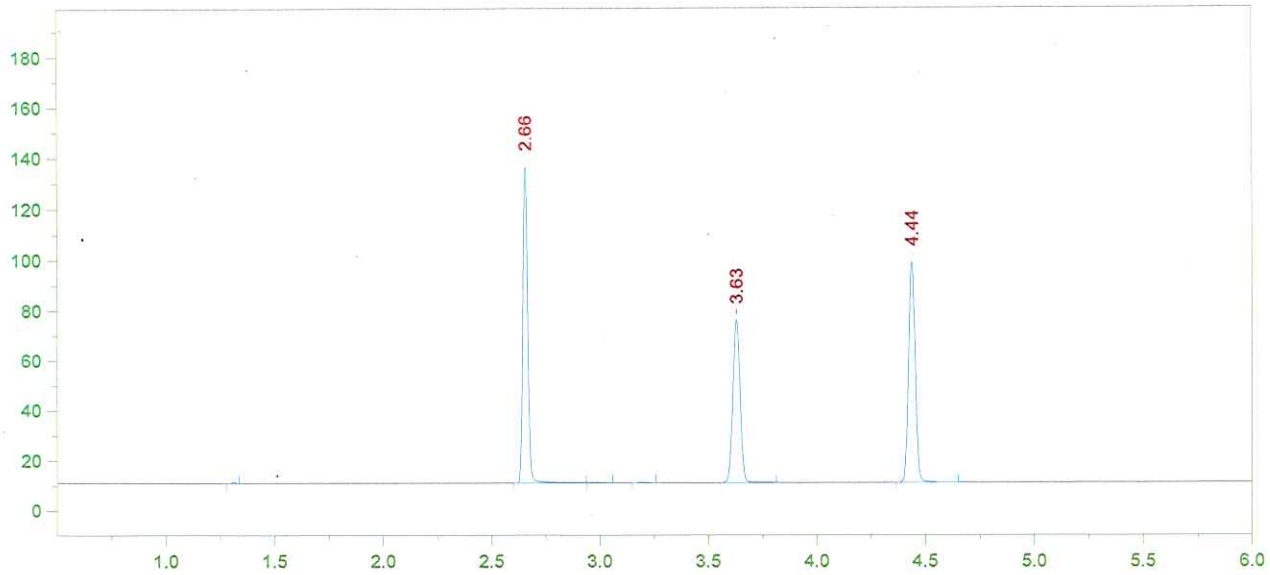
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:51 AM
Bound File Name = VFL12212015.0013.RAW
Sample Name = 0.16 DP
Date Taken = 12/21/2015 5:00:04 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	188697	0.2013	0.1643
5	3.63	t-Butanol	133105	0.9610	0.7844
6	4.44	n-Propanol	177349	1.0000	0.8162

15-27-160

16



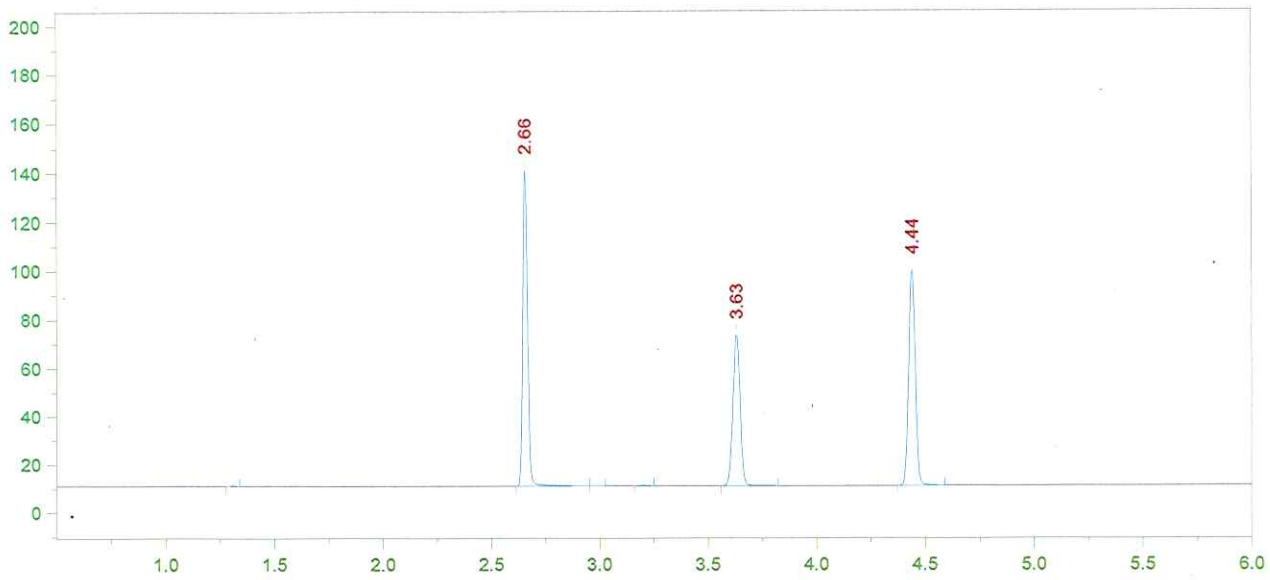
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015
Today's Time = 8:16:57 AM
Bound File Name = VFL12212015.0014.RAW
Sample Name = 0.16 DP
Date Taken = 12/21/2015 5:17:30 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	193780	0.1965	0.1604
5	3.63	t-Butanol	150253	1.0309	0.8414
6	4.44	n-Propanol	186620	1.0000	0.8162

15-27-160

17



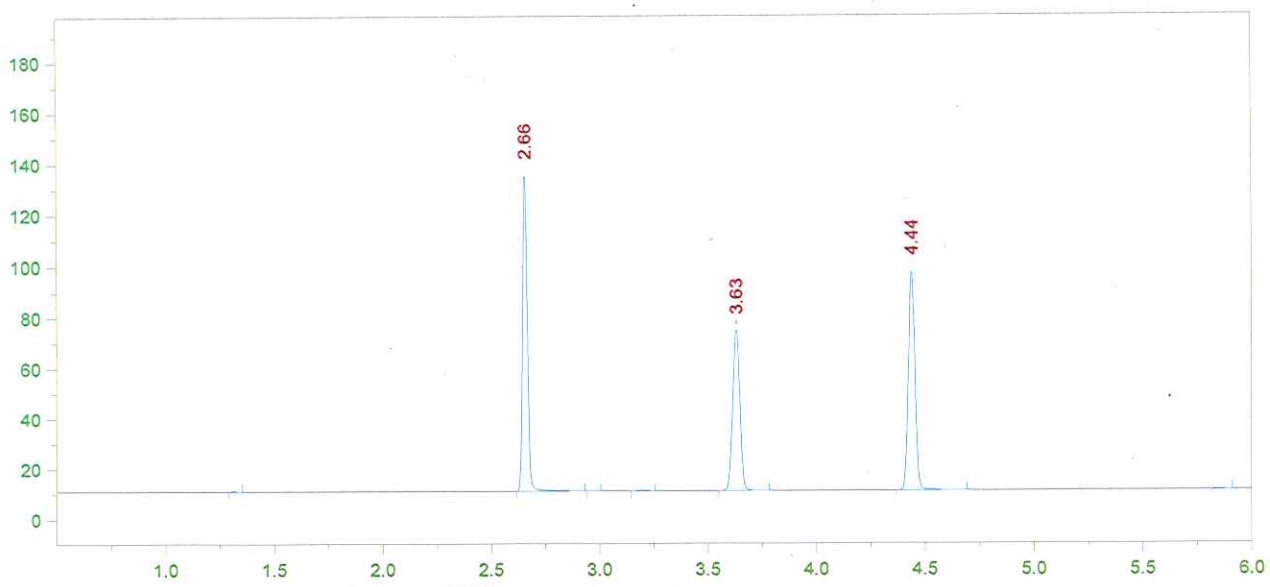
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015 Today's Time = 8:17:03 AM
Bound File Name = VFL12212015.0015.RAW
Sample Name = 0.16 DP
Date Taken = 12/21/2015 5:31:33 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	198480	0.2004	0.1636
5	3.63	t-Butanol	144887	0.9899	0.8080
6	4.44	n-Propanol	187408	1.0000	0.8162

15-27-160

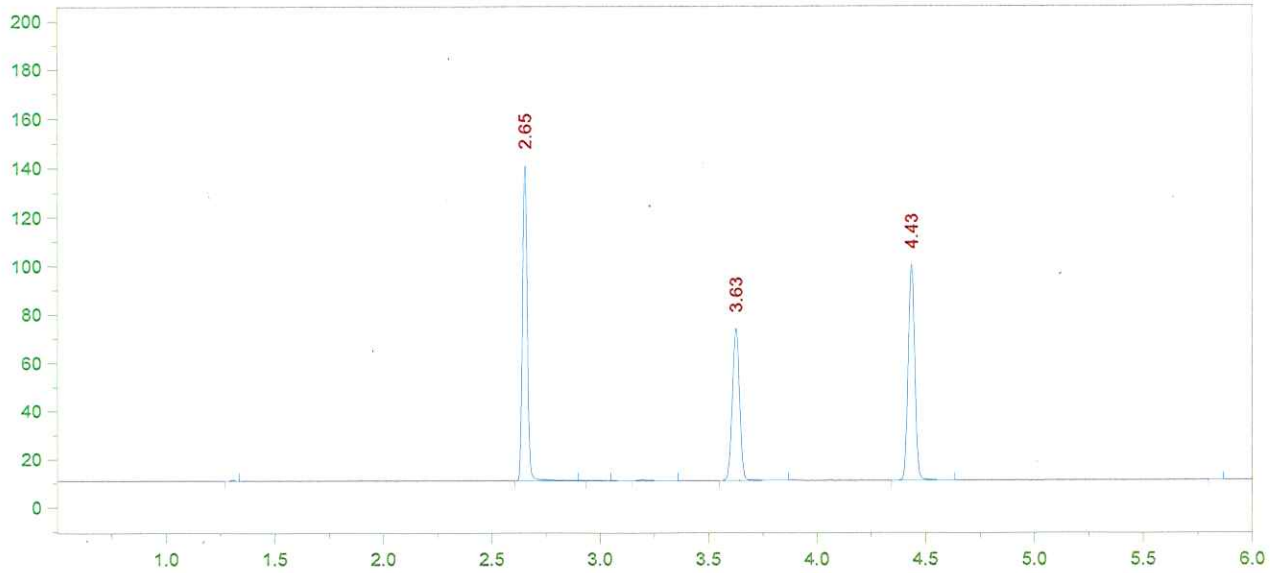
18



Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015 Today's Time = 8:17:09 AM
Bound File Name = VFL12212015.0016.RAW
Sample Name = 0.16 DP
Date Taken = 12/21/2015 5:48:54 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	190009	0.1959	0.1599
5	3.63	t-Butanol	147211	1.0272	0.8384
6	4.44	n-Propanol	183509	1.0000	0.8162



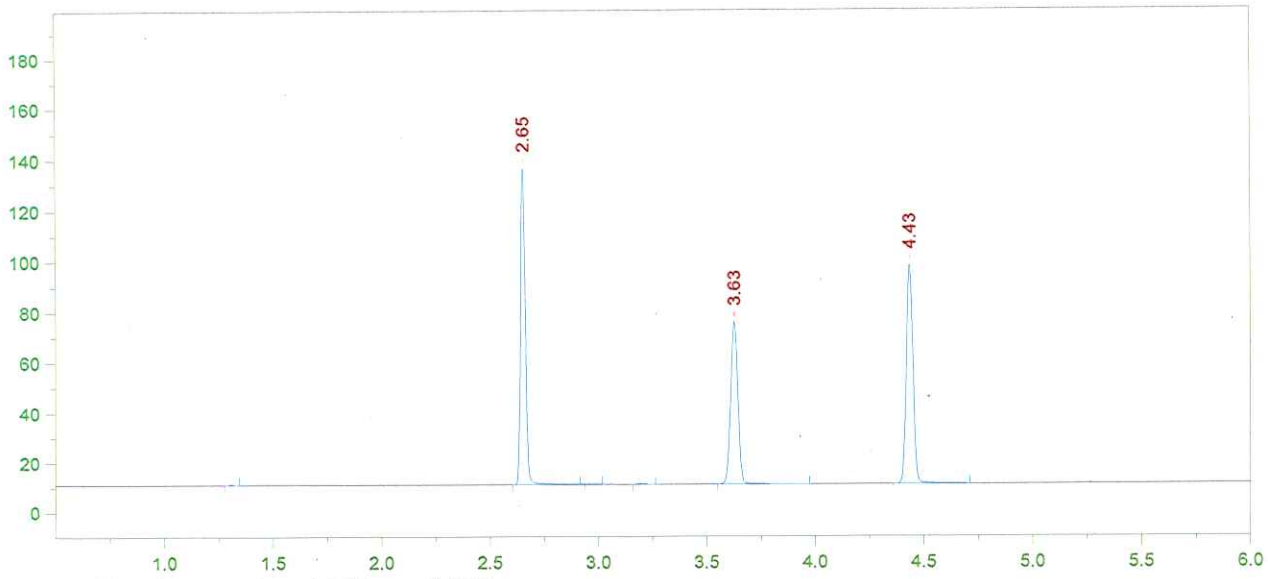
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015
Today's Time = 8:17:15 AM
Bound File Name = VFL12212015.0017.RAW
Sample Name = 0.16 DP
Date Taken = 12/21/2015 6:03:18 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	200535	0.2002	0.1634
5	3.63	t-Butanol	145570	0.9832	0.8025
6	4.43	n-Propanol	189587	1.0000	0.8162

15-27-160

20



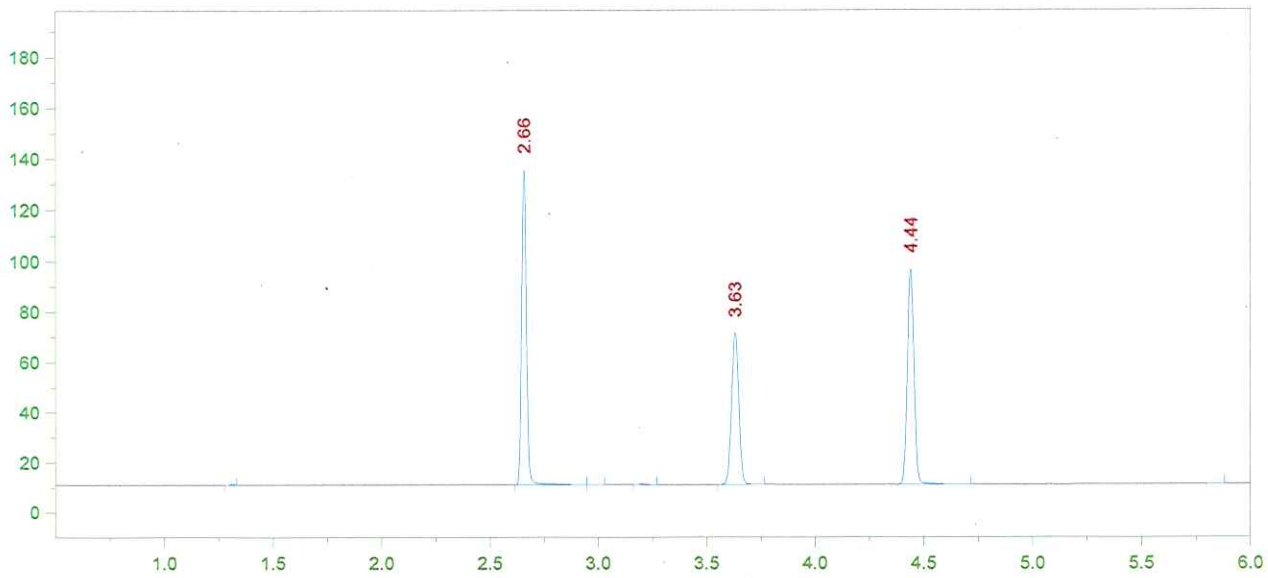
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015
Today's Time = 8:17:23 AM
Bound File Name = VFL12212015.0018.RAW
Sample Name = 0.16 DP
Date Taken = 12/21/2015 6:20:19 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	192502	0.1956	0.1596
5	3.63	t-Butanol	150103	1.0320	0.8423
6	4.43	n-Propanol	186237	1.0000	0.8162

15-27-160

21



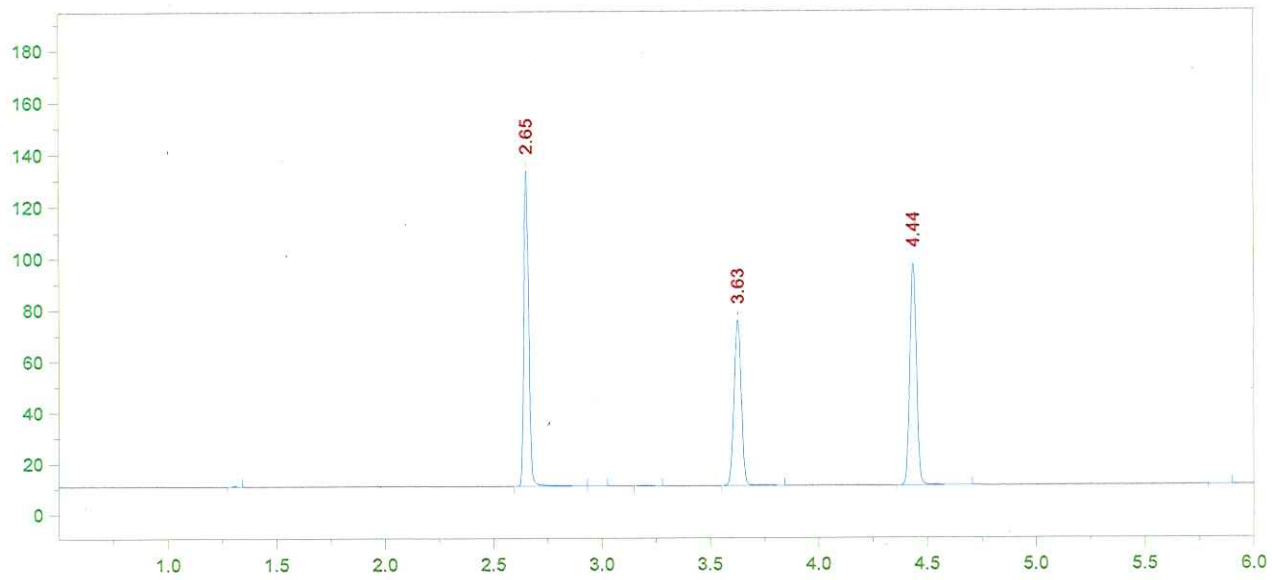
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015
Today's Time = 8:17:30 AM
Bound File Name = VFL12212015.0019.RAW
Sample Name = 0.16 JD
Date Taken = 12/21/2015 6:34:19 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	190733	0.1984	0.1620
5	3.63	t-Butanol	139860	0.9846	0.8036
6	4.44	n-Propanol	181888	1.0000	0.8162

15-27-160

22



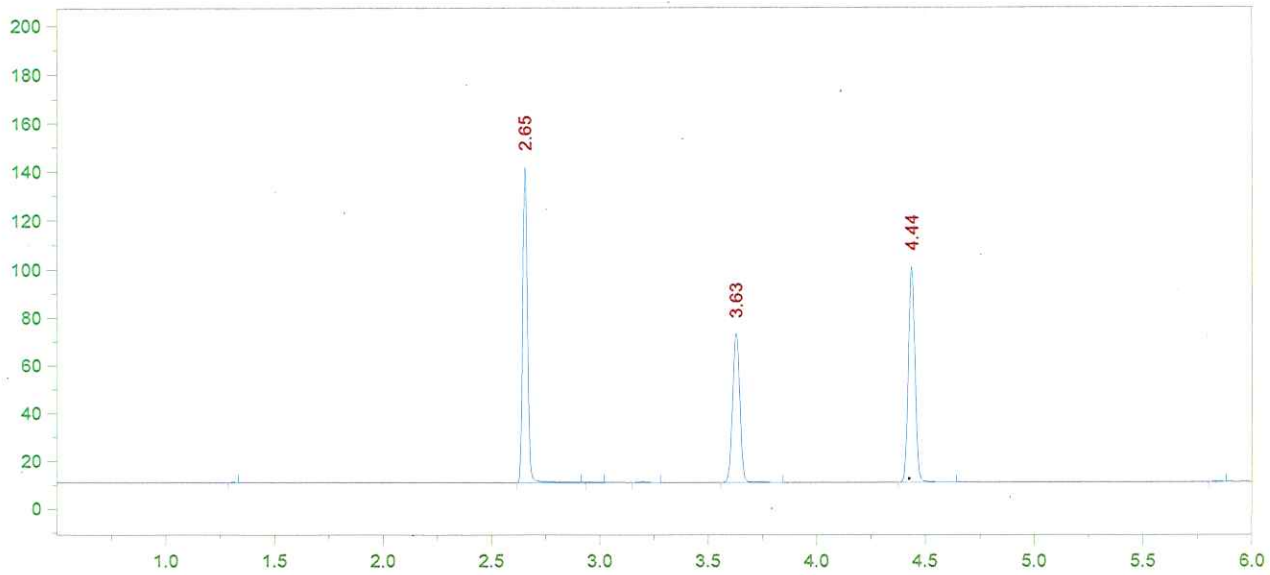
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015
Today's Time = 8:17:36 AM
Bound File Name = VFL12212015.0020.RAW
Sample Name = 0.16 JD
Date Taken = 12/21/2015 6:51:43 PM
VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	188723	0.1941	0.1584
5	3.63	t-Butanol	149044	1.0372	0.8465
6	4.44	n-Propanol	184006	1.0000	0.8162

15-27-160

23



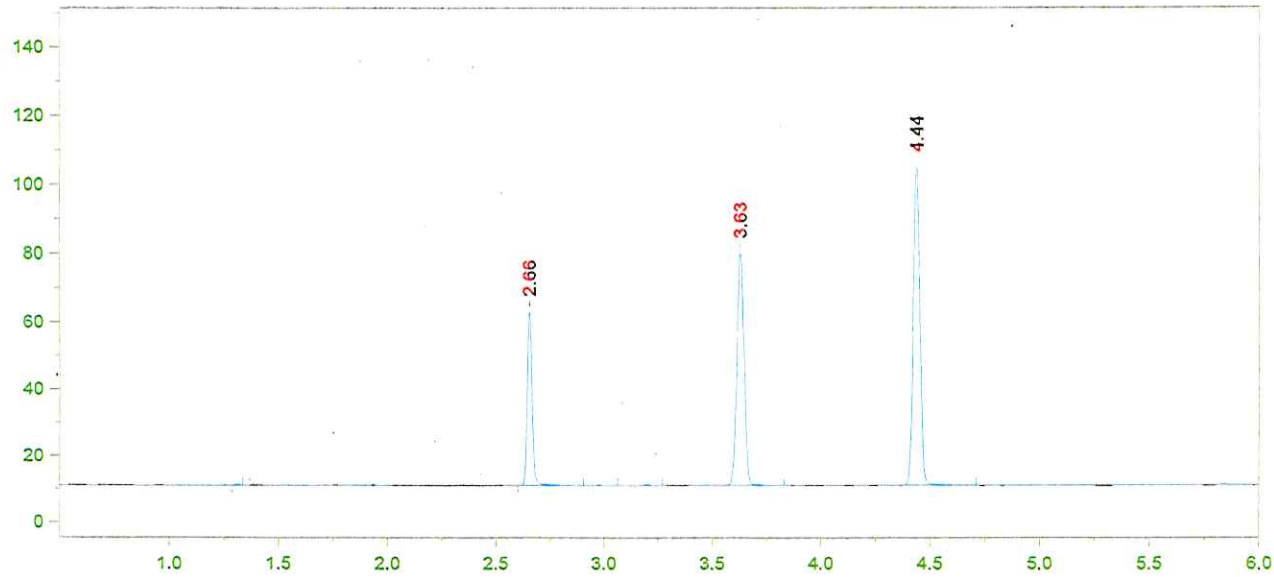
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015 Today's Time = 8:17:42 AM
Bound File Name = VFL12212015.0021.RAW
Sample Name = 0.16 JD
Date Taken = 12/21/2015 7:05:36 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	200060	0.1990	0.1624
5	3.63	t-Butanol	144355	0.9717	0.7931
6	4.44	n-Propanol	190232	1.0000	0.8162

15-27-160

24



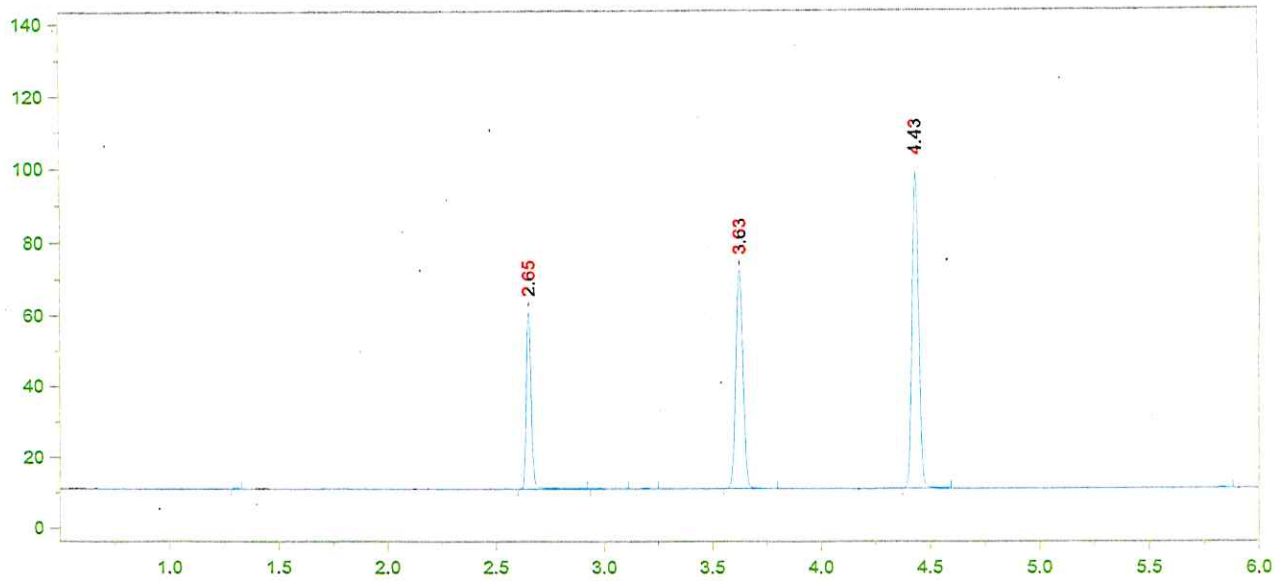
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:17:49 AM
Bound File Name = VFL12212015.0022.RAW
Sample Name = CCS
Date Taken = 12/21/2015 7:21:27 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	81077	0.0770
5	3.63	t-Butanol	158310	1.0170
6	4.44	n-Propanol	199322	1.0000

15-27-160

25



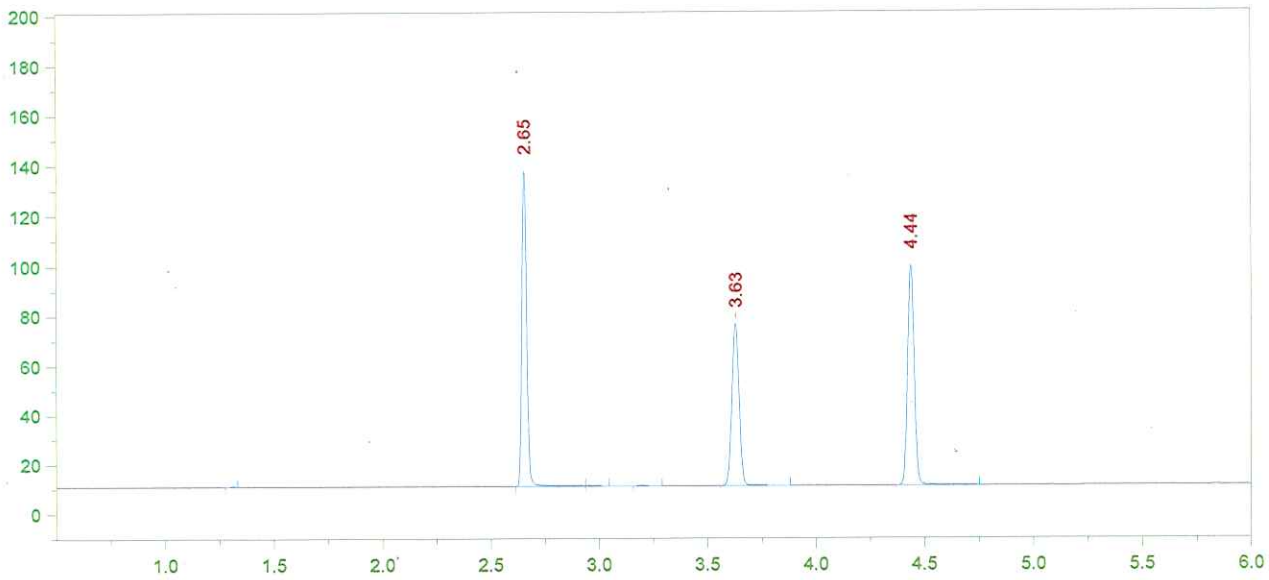
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:17:57 AM
Bound File Name = VFL12212015.0023.RAW
Sample Name = CCS
Date Taken = 12/21/2015 7:36:46 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	77737	0.0788
5	3.63	t-Butanol	141716	0.9723
6	4.43	n-Propanol	186627	1.0000

CCS MEAN: 0.0779 g/100 mL
±5% : 0.0740 - 0.0818
Recovery: $\frac{0.078}{0.080}$ = 97.5%
12/22/15

5-27-16
26



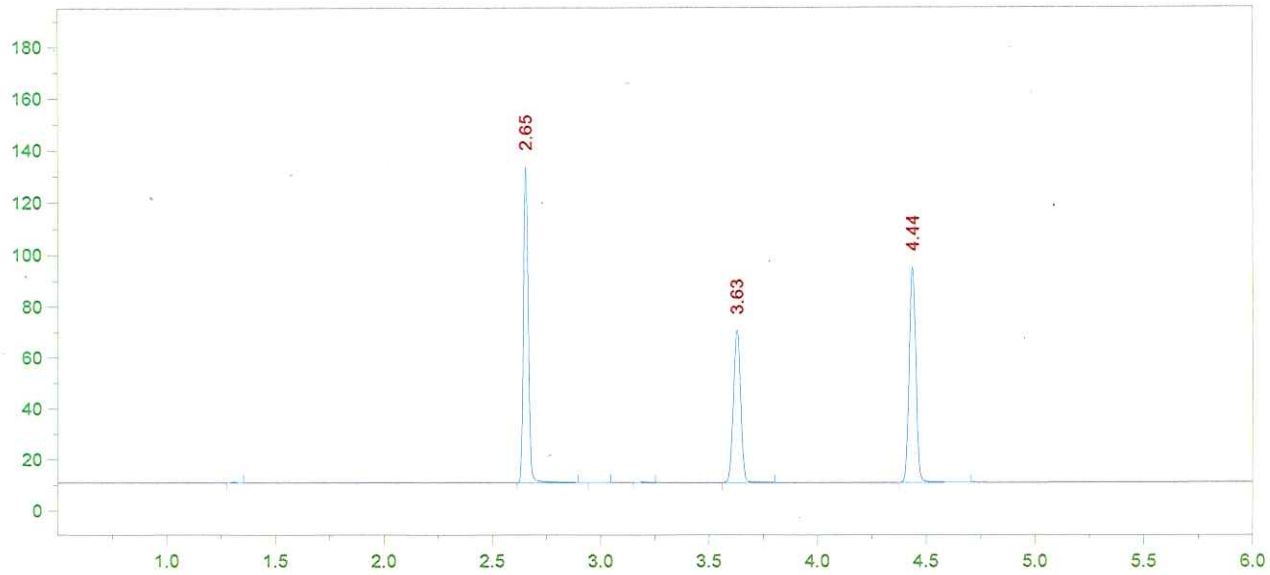
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015 Today's Time = 8:18:03 AM
Bound File Name = VFL12212015.0024.RAW
Sample Name = 0.16 JD
Date Taken = 12/21/2015 7:52:59 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	195669	0.1957	0.1597
5	3.63	t-Butanol	151531	1.0254	0.8369
6	4.44	n-Propanol	189221	1.0000	0.8162

15-27-160

27



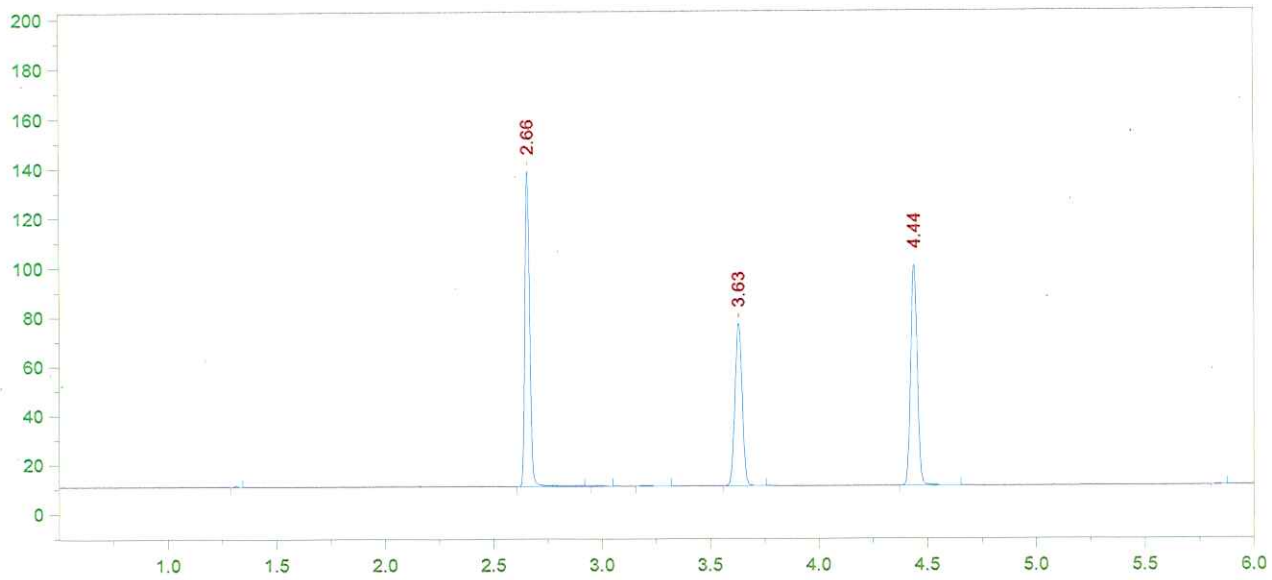
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015 Today's Time = 8:18:10 AM
Bound File Name = VFL12212015.0025.RAW
Sample Name = 0.16 JD
Date Taken = 12/21/2015 8:08:10 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	187789	0.1989	0.1623
5	3.63	t-Butanol	138623	0.9934	0.8108
6	4.44	n-Propanol	178687	1.0000	0.8162

15-27-160

28

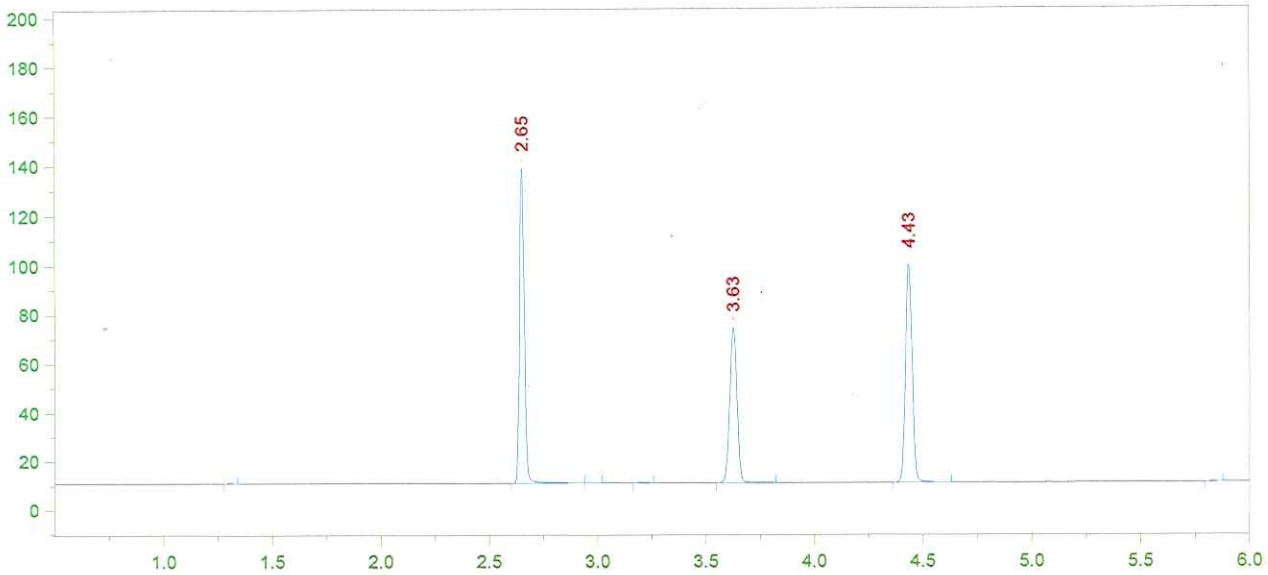


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015 Today's Time = 8:18:15 AM
Bound File Name = VFL12212015.0026.RAW
Sample Name = 0.16 JD
Date Taken = 12/21/2015 8:24:23 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	195833	0.1955	0.1595
5	3.63	t-Butanol	153053	1.0336	0.8436
6	4.44	n-Propanol	189605	1.0000	0.8162

15-27-160 29

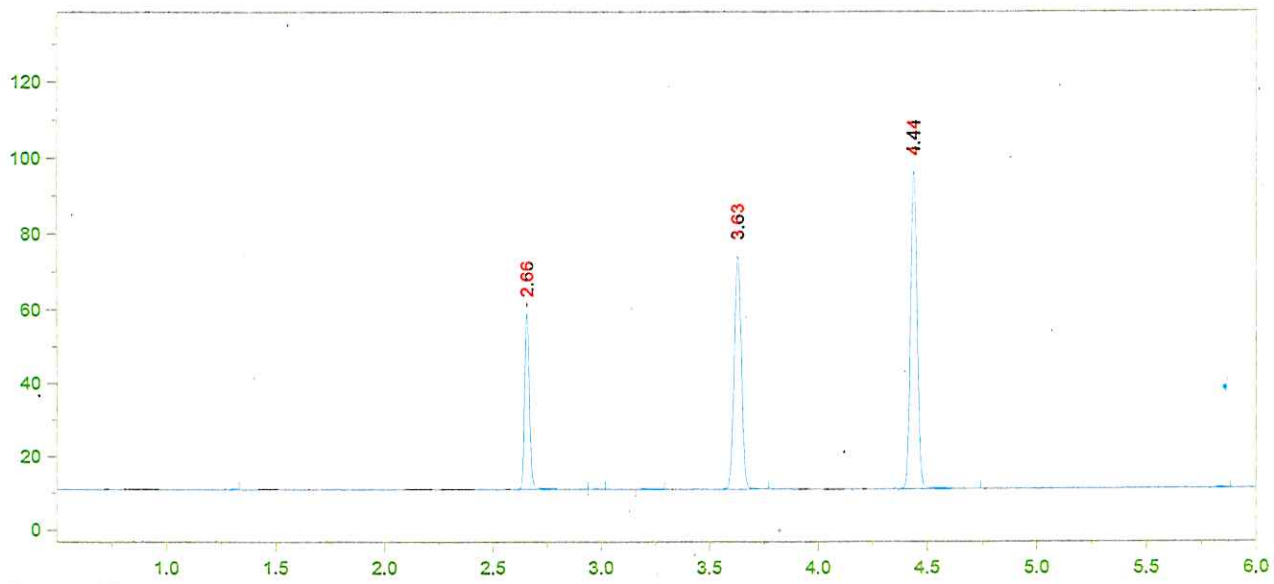


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/22/2015 Today's Time = 8:18:22 AM
Bound File Name = VFL12212015.0027.RAW
Sample Name = 0.16 JD
Date Taken = 12/21/2015 8:38:32 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12212015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	196006	0.1960	0.1599
5	3.63	t-Butanol	146799	0.9930	0.8105
6	4.43	n-Propanol	189286	1.0000	0.8162

15-27-160



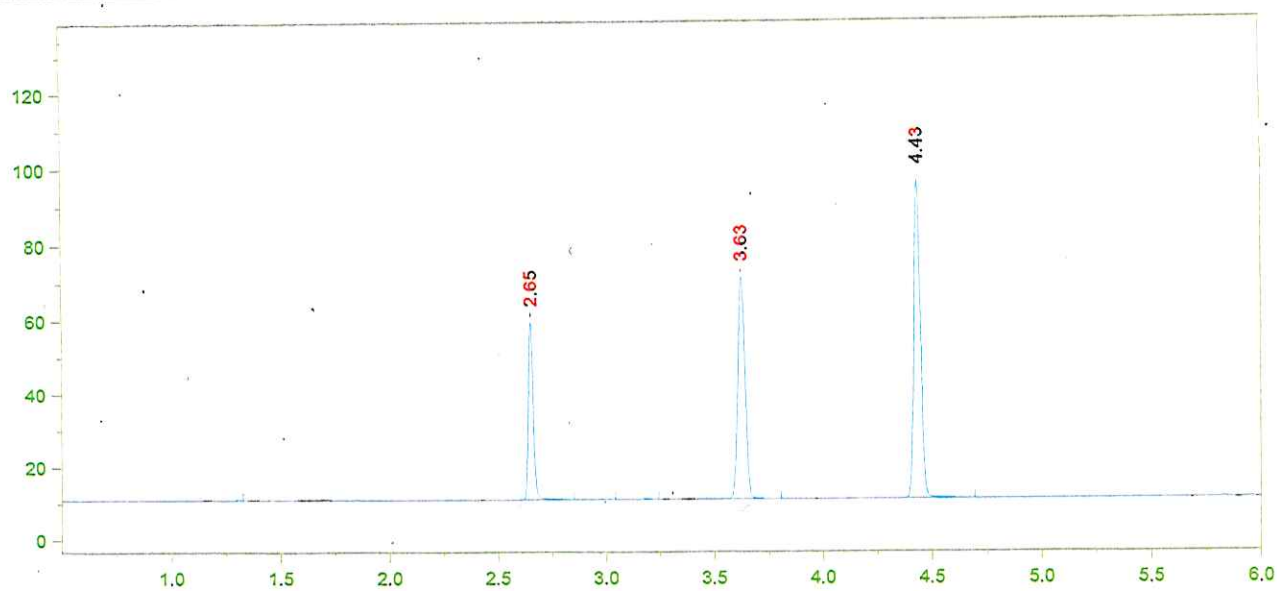
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:19:09 AM
Bound File Name = VFL12212015.0034.RAW
Sample Name = CCS
Date Taken = 12/21/2015 10:30:01 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	2.66	Ethanol	74482	0.0776
6	3.63	t-Butanol	145758	1.0272
7	4.44	n-Propanol	181703	1.0000

15-27-160

31



Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015 Today's Time = 8:19:15 AM
Bound File Name = VFL12212015.0035.RAW
Sample Name = CCS
Date Taken = 12/21/2015 10:44:14 PM VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL Calibration Version = 7

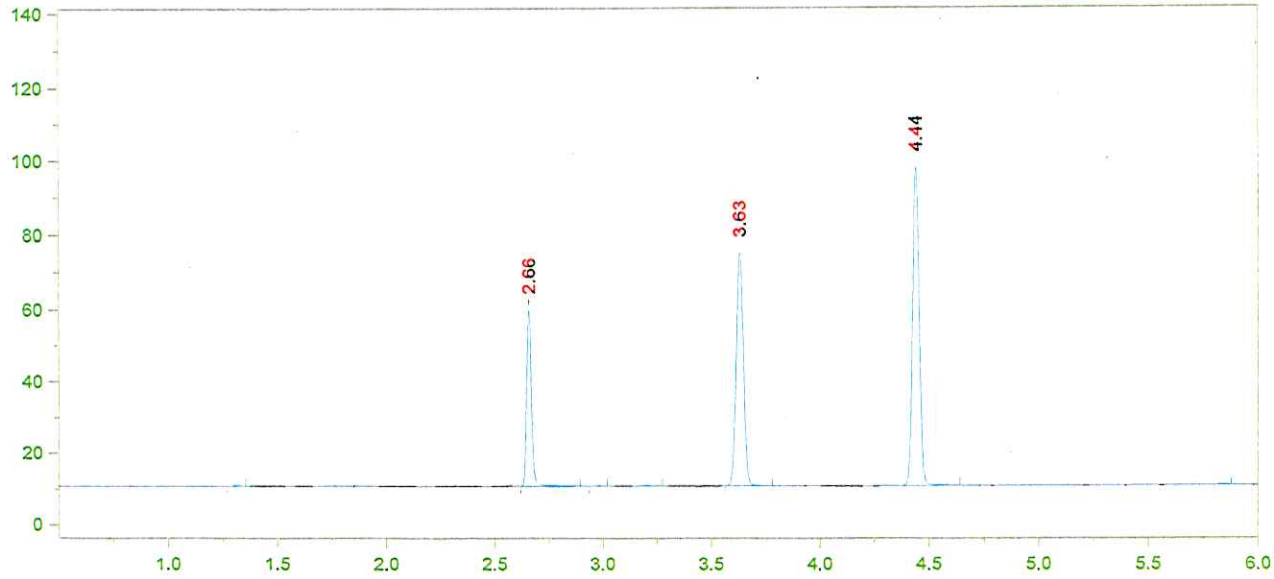
Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	75812	0.0791
5	3.63	t-Butanol	138944	0.9805
6	4.43	n-Propanol	181449	1.0000

CCS MEAN: 0.0783 g/100 mL

±5%: 0.0744 - 0.0822

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

15-27-160 32



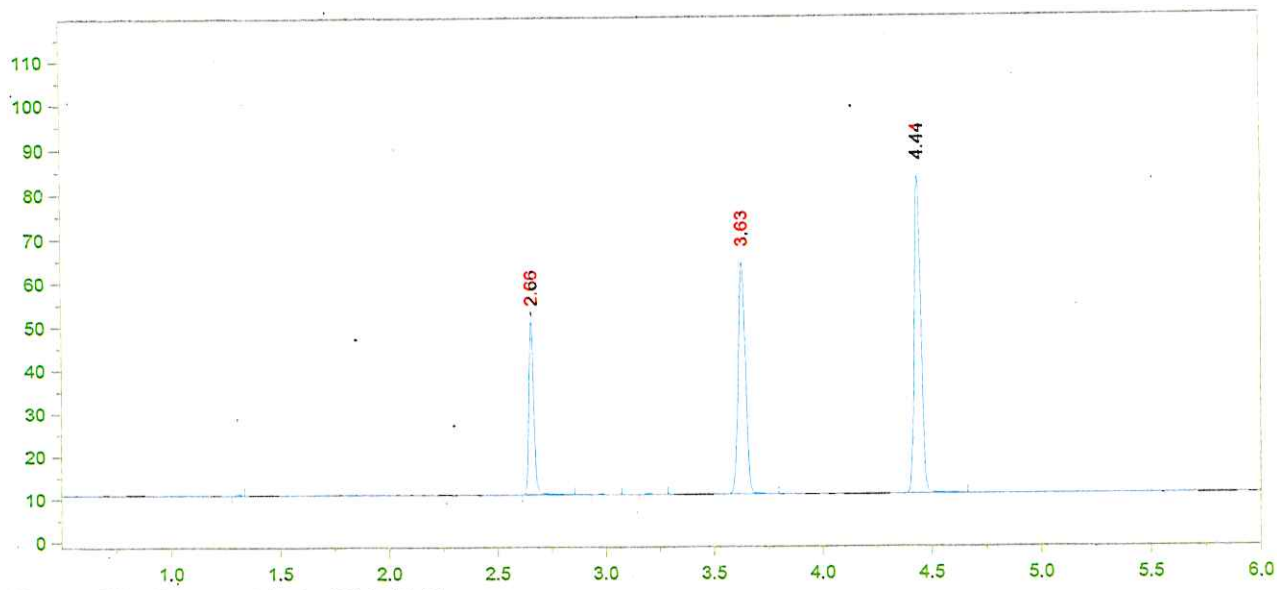
Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:20:14 AM
Bound File Name = VFL12212015.0044.RAW
Sample Name = CCS
Date Taken = 12/22/2015 1:04:02 AM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	2.66	Ethanol	75809	0.0778
6	3.63	t-Butanol	148682	1.0327
7	4.44	n-Propanol	184349	1.0000

15-27-160

33



Format File Name = AlcoholVFL.FMT

Today's Date = 12/22/2015
Today's Time = 8:20:20 AM
Bound File Name = VFL12212015.0045.RAW
Sample Name = CCS
Date Taken = 12/22/2015 1:18:20 AM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12212015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	62985	0.0775
5	3.63	t-Butanol	122929	1.0240
6	4.44	n-Propanol	153719	1.0000

CCS MEAN: 0.0776 g/100 mL EtOH

RANGE: 0.0737 - 0.0815

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

12/22/15

15-27-160

34

File Name = C:\Alcohol Data\VFL12232015\VFL12232015.SEQ
Version = 2
File Date = 12/24/2015 8:12:42 AM

Entry #	Raw File Name	Method File Name	Sample Name	Sample Wt.	Int. Std. Amount
1	VFL12232015.0001.raw	Blood Alc temp VFL.MET	BLANK	1.00	1.00
2	VFL12232015.0002.raw	Blood Alc temp VFL.MET	TMX	1.00	1.00
3	VFL12232015.0003.raw	Blood Alc temp VFL.MET	STD A	1.00	1.00
4	VFL12232015.0004.raw	Blood Alc temp VFL.MET	STD B	1.00	1.00
5	VFL12232015.0005.raw	Blood Alc temp VFL.MET	STD C	1.00	1.00
6	VFL12232015.0006.raw	Blood Alc temp VFL.MET	STD D	1.00	1.00
7	VFL12232015.0007.raw	Blood Alc temp VFL.MET	STD E	1.00	1.00
8	VFL12232015.0008.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
9	VFL12232015.0009.raw	Blood Alc temp VFL.MET	AQ	1.00	1.00
10	VFL12232015.0010.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
11	VFL12232015.0011.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
12	VFL12232015.0012.raw	simsoln.met	0.16 DP	1.00	1.00
13	VFL12232015.0013.raw	simsoln.met	0.16 DP	1.00	1.00
14	VFL12232015.0014.raw	simsoln.met	0.16 DP	1.00	1.00
15	VFL12232015.0015.raw	simsoln.met	0.16 DP	1.00	1.00
16	VFL12232015.0016.raw	simsoln.met	0.16 DP	1.00	1.00
17	VFL12232015.0017.raw	simsoln.met	0.16 DP	1.00	1.00
18	VFL12232015.0018.raw	simsoln.met	0.16 DP	1.00	1.00
19	VFL12232015.0019.raw	simsoln.met	0.16 JD	1.00	1.00
20	VFL12232015.0020.raw	simsoln.met	0.16 JD	1.00	1.00
21	VFL12232015.0021.raw	simsoln.met	0.16 JD	1.00	1.00
22	VFL12232015.0022.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
23	VFL12232015.0023.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
24	VFL12232015.0024.raw	simsoln.met	0.16 JD	1.00	1.00
25	VFL12232015.0025.raw	simsoln.met	0.16 JD	1.00	1.00
26	VFL12232015.0026.raw	simsoln.met	0.16 JD	1.00	1.00
27	VFL12232015.0027.raw	simsoln.met	0.16 JD	1.00	1.00
28	VFL12232015.0028.raw	simsoln.met	0.40 DP	1.00	1.00
29	VFL12232015.0029.raw	simsoln.met	0.40 DP	1.00	1.00
30	VFL12232015.0030.raw	simsoln.met	0.40 DP	1.00	1.00
31	VFL12232015.0031.raw	simsoln.met	0.40 DP	1.00	1.00
32	VFL12232015.0032.raw	simsoln.met	0.40 DP	1.00	1.00
33	VFL12232015.0033.raw	simsoln.met	0.40 DP	1.00	1.00
34	VFL12232015.0034.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
35	VFL12232015.0035.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00
36	VFL12232015.0036.raw	simsoln.met	0.40 DP	1.00	1.00
37	VFL12232015.0037.raw	simsoln.met	0.40 JD	1.00	1.00
38	VFL12232015.0038.raw	simsoln.met	0.40 JD	1.00	1.00
39	VFL12232015.0039.raw	simsoln.met	0.40 JD	1.00	1.00
40	VFL12232015.0040.raw	simsoln.met	0.40 JD	1.00	1.00
41	VFL12232015.0041.raw	simsoln.met	0.40 JD	1.00	1.00
42	VFL12232015.0042.raw	simsoln.met	0.40 JD	1.00	1.00
43	VFL12232015.0043.raw	simsoln.met	0.40 JD	1.00	1.00
44	VFL12232015.0044.raw	Blood Alc temp VFL.MET	IS-12232015 - NEW LOT #	1.00	1.00
45	VFL12232015.0045.raw	Blood Alc temp VFL.MET	CCS QC NOT INCLUDED	1.00	1.00
46	VFL12232015.0046.raw	Blood Alc temp VFL.MET	CCS	1.00	1.00

15-27-160

35

File Name: C:\Methods\VFL12232015.CAL
Version: 7

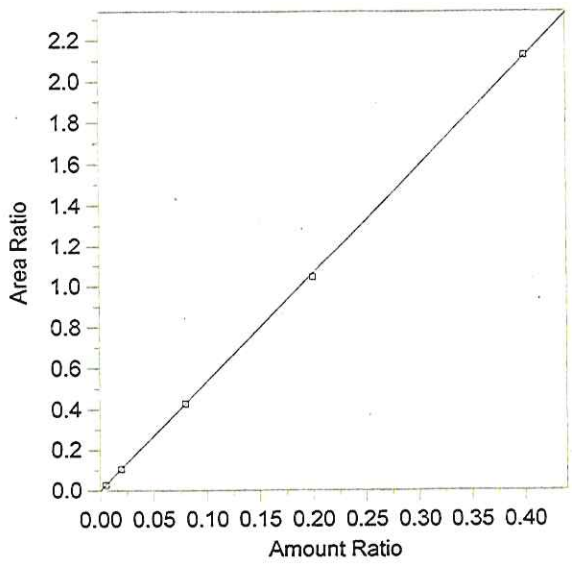
Creator:
Description:
Reason for change:

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

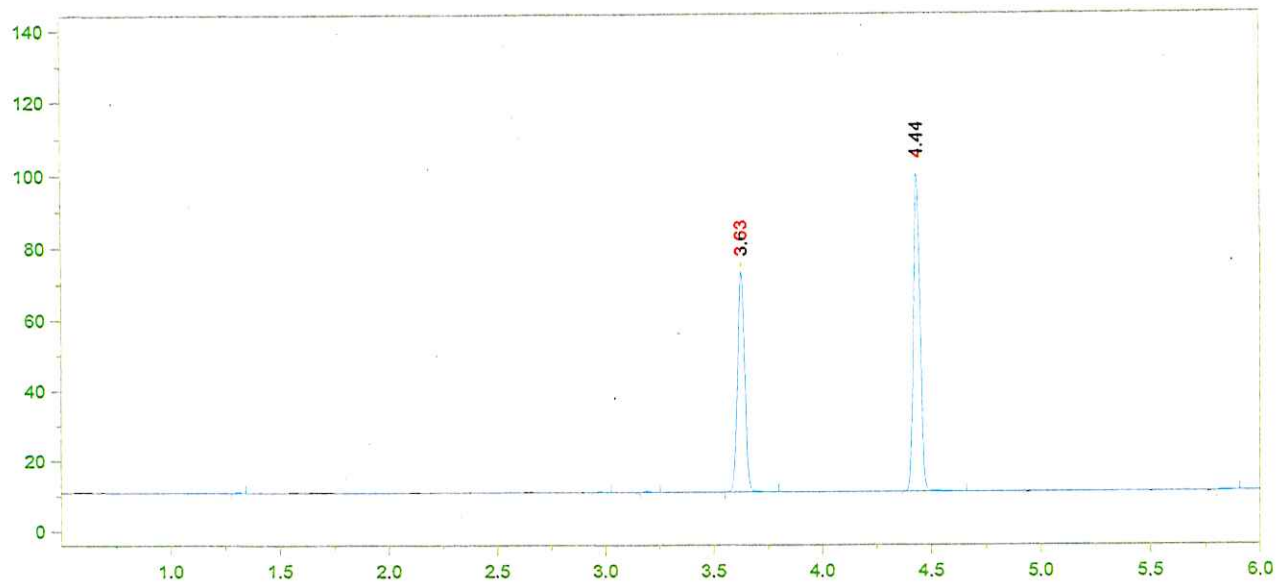
$Y = 5.297935 X + 0$

Linear fit with equal weighting, forced to origin
Coefficient of determination: 0.999902
Average error: 1.060%
Average CF: 5.278187
RSD: 1.384%

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	4901.303	980260.7	1.220	0.005	2.681282E-02	C:\Alcohol Data\VFL12232015\VFL12232015.0003.BND	12/24/2015 8:17:05 A
3	0.02	19669.76	983488	-2.142	0.02	0.1036895	C:\Alcohol Data\VFL12232015\VFL12232015.0004.BND	12/24/2015 8:17:08 A
4	0.08	77483.7	968546.3	0.139	0.08	0.4244236	C:\Alcohol Data\VFL12232015\VFL12232015.0005.BND	12/24/2015 8:17:10 A
5	0.2	192080.3	960401.5	-1.441	0.2	1.04432	C:\Alcohol Data\VFL12232015\VFL12232015.0006.BND	12/24/2015 8:17:12 A
6	0.4	379881.4	949703.5	0.360	0.4	2.126799	C:\Alcohol Data\VFL12232015\VFL12232015.0007.BND	12/24/2015 8:17:14 A

5-27-160

36

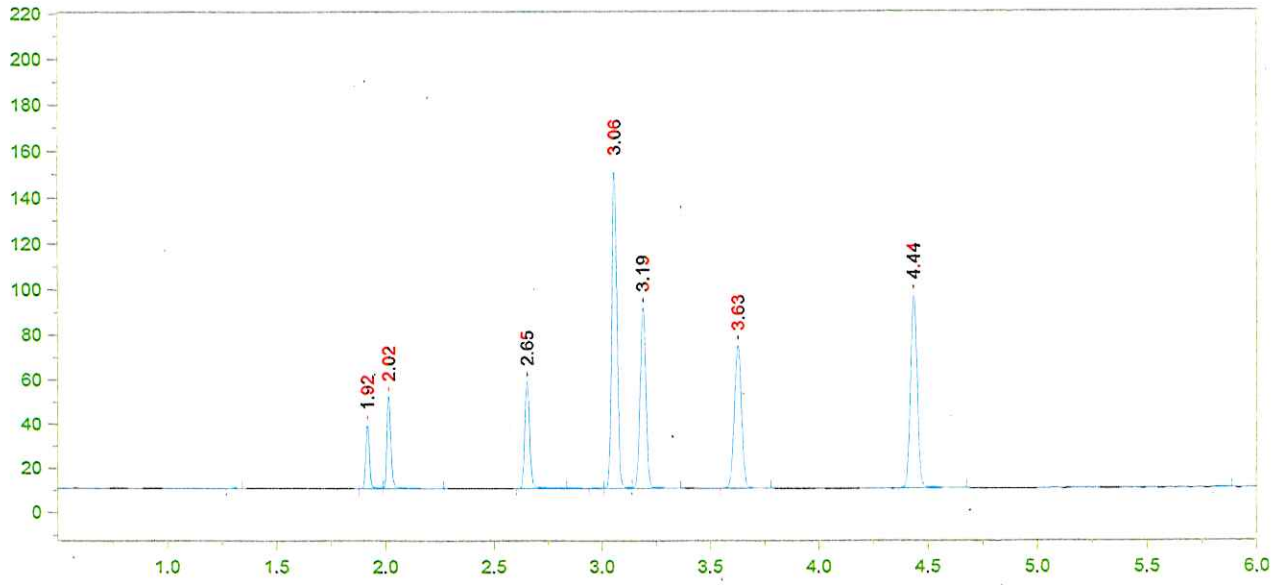


Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:23:10 AM
Bound File Name = VFL12232015.0001.RAW
Sample Name = BLANK
Date Taken = 12/23/2015 11:35:42 AM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
4	3.63	t-Butanol	143536	0.9664
5	4.44	n-Propanol	188800	1.0000

5-27-1600 37

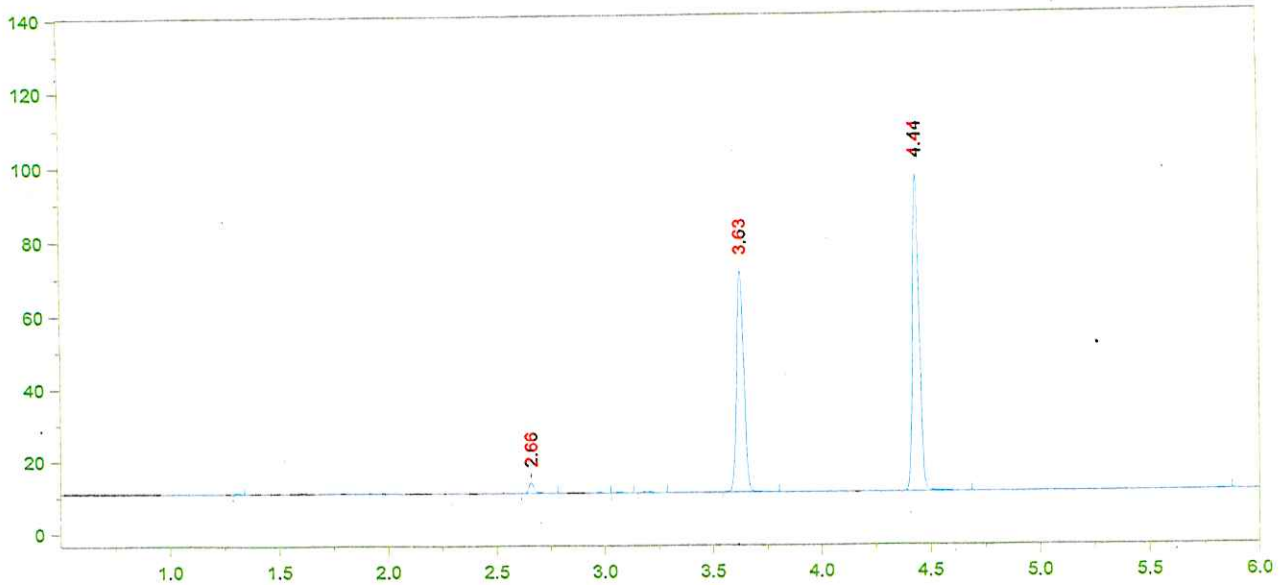


Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015 Today's Time = 8:23:16 AM
Bound File Name = VFL12232015.0002.RAW
Sample Name = TMX
Date Taken = 12/23/2015 11:53:19 AM VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	1.92	Acetaldehyde	34017	0.0686
3	2.02	Methanol	53262	0.1169
4	2.65	Ethanol	74811	0.0772
6	3.06	Acetone	239494	0.0612
7	3.19	Isopropanol	151237	0.0780
8	3.63	t-Butanol	147889	1.0278
9	4.44	n-Propanol	182910	1.0000

i5-27-160 38

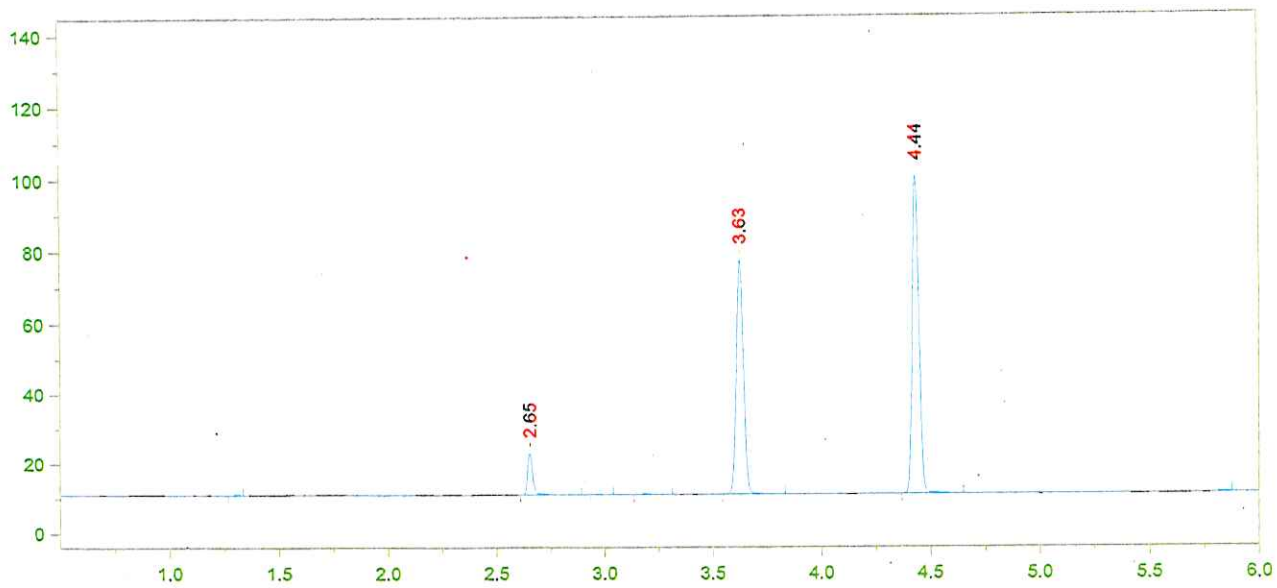


Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:23:22 AM
Bound File Name = VFL12232015.0003.RAW
Sample Name = STD A
Date Taken = 12/23/2015 12:06:57 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	2.66	Ethanol	04901	0.0051
7	3.63	t-Butanol	139997	0.9735
8	4.44	n-Propanol	182797	1.0000

5-27-160 39

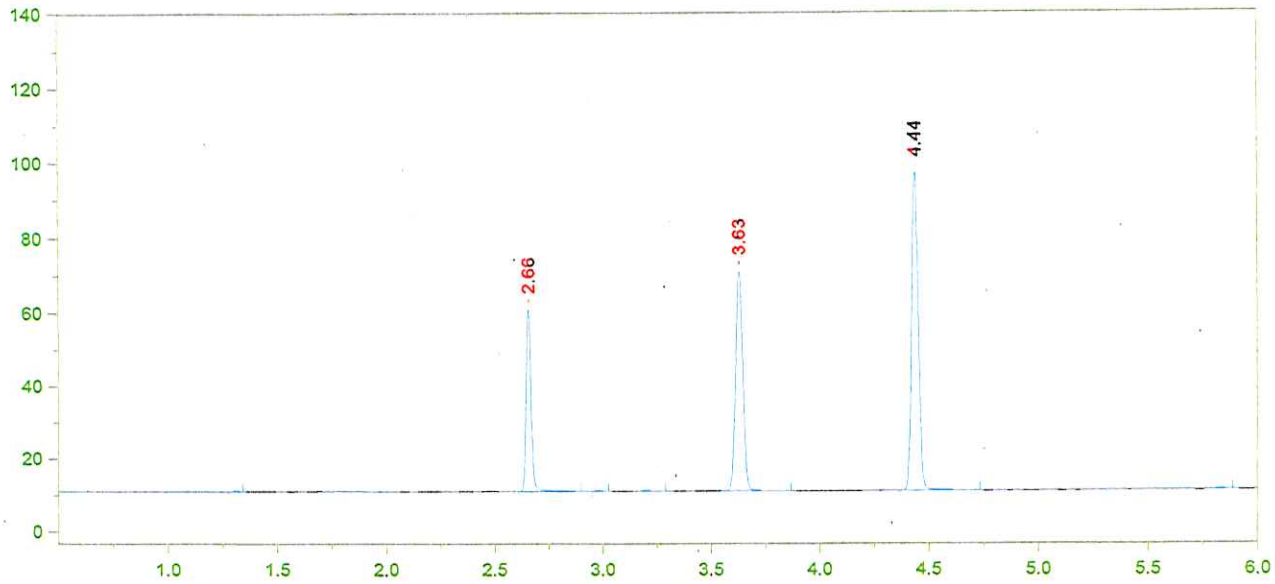


Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:23:27 AM
Bound File Name = VFL12232015.0004.RAW
Sample Name = STD B
Date Taken = 12/23/2015 12:23:00 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	2.65	Ethanol	19670	0.0196
6	3.63	t-Butanol	153189	1.0265
7	4.44	n-Propanol	189699	1.0000

15-27-160 40



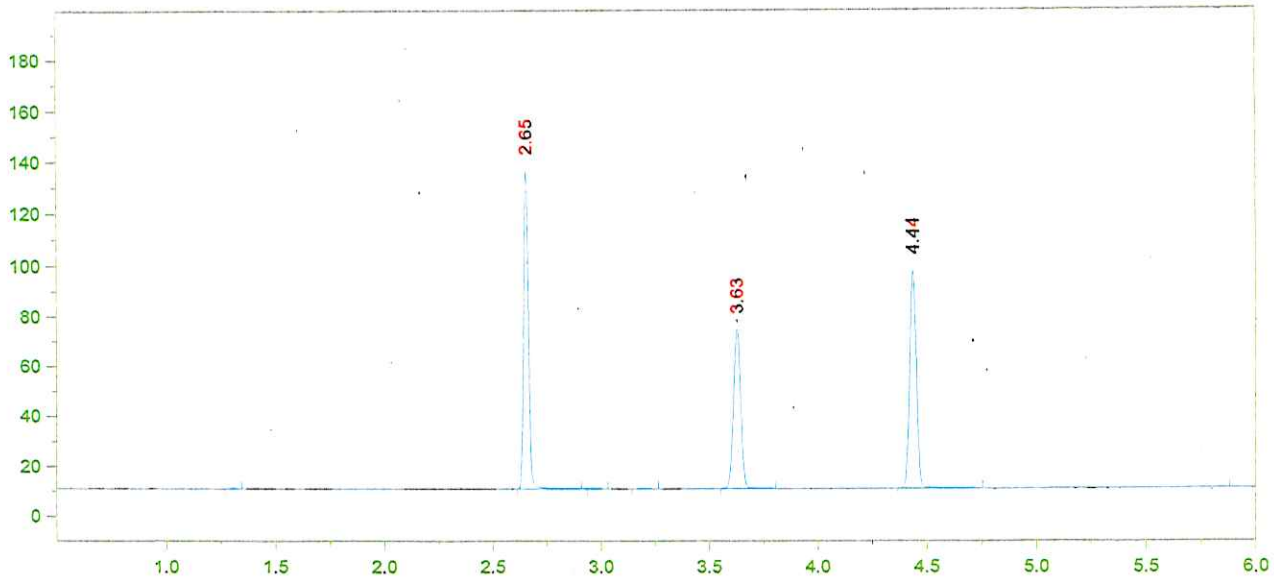
Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:23:34 AM
Bound File Name = VFL12232015.0005.RAW
Sample Name = STD C
Date Taken = 12/23/2015 12:38:34 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	2.66	Ethanol	77484	0.0801
6	3.63	t-Butanol	138953	0.9675
7	4.44	n-Propanol	182562	1.0000

15-27-160

4h



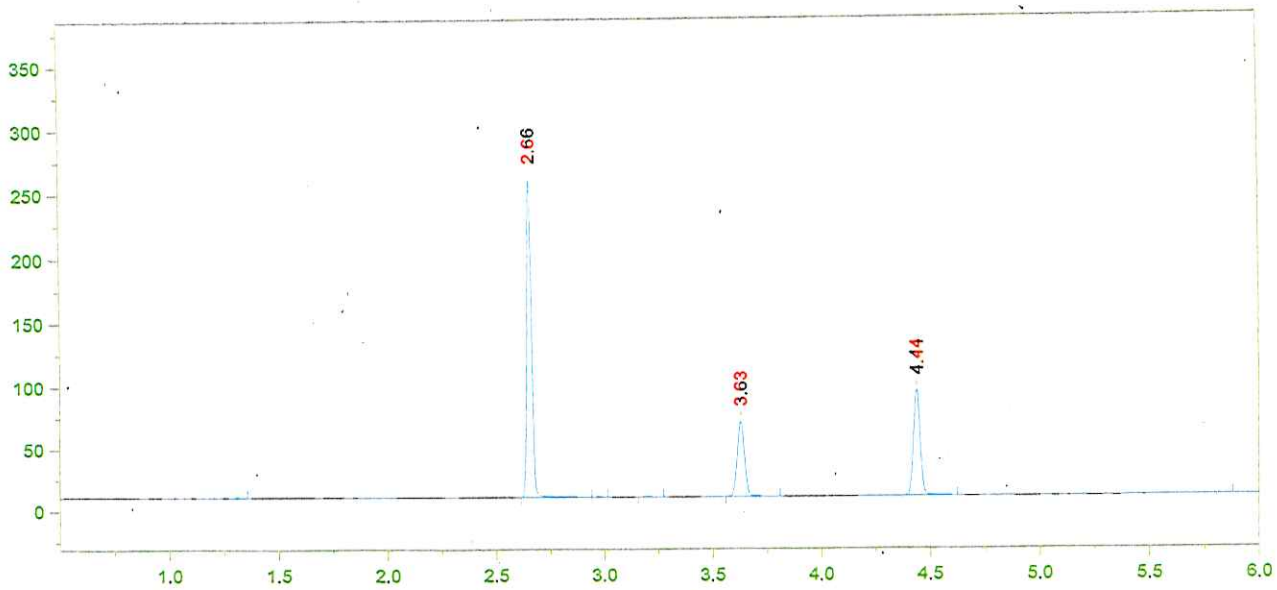
Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:23:41 AM
Bound File Name = VFL12232015.0006.RAW
Sample Name = STD D
Date Taken = 12/23/2015 12:54:35 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	192080	0.1971
5	3.63	t-Butanol	147731	1.0210
6	4.44	n-Propanol	183929	1.0000

15-27-160

42

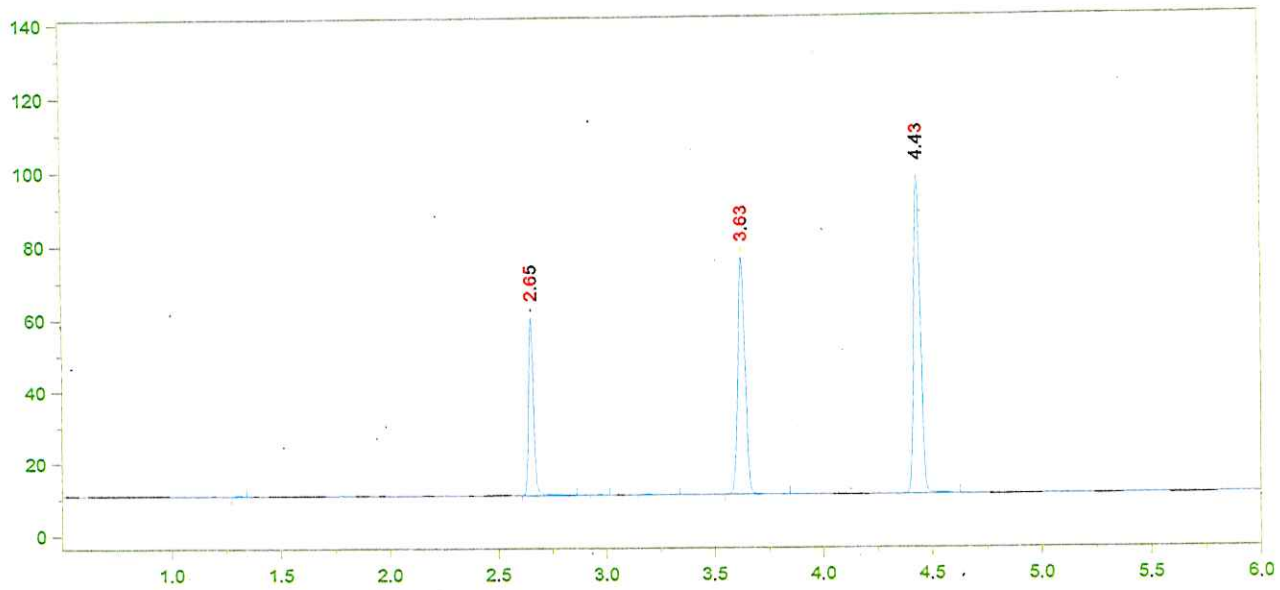


Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015 Today's Time = 8:23:46 AM
Bound File Name = VFL12232015.0007.RAW
Sample Name = STD E
Date Taken = 12/23/2015 1:08:16 PM VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	379881	0.4014
5	3.63	t-Butanol	138220	0.9837
6	4.44	n-Propanol	178617	1.0000

15-27-160 DS 43

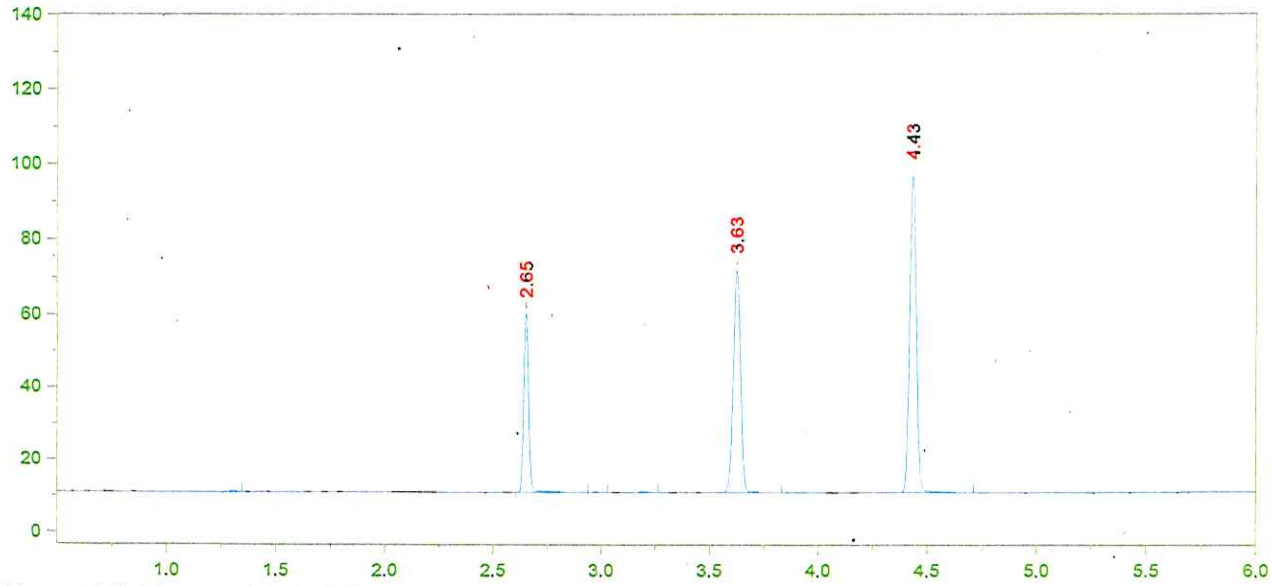


Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:23:52 AM
Bound File Name = VFL12232015.0008.RAW
Sample Name = AQ
Date Taken = 12/23/2015 1:25:59 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	77268	0.0790
5	3.63	t-Butanol	150150	1.0342
6	4.43	n-Propanol	184549	1.0000

15-27-160 dg 44



Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:24:00 AM
Bound File Name = VFL12232015.0009.RAW
Sample Name = AQ
Date Taken = 12/23/2015 1:39:40 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	77204	0.0796
5	3.63	t-Butanol	141055	0.9793
6	4.43	n-Propanol	183097	1.0000

AQ mean: 0.0793 g/100mL EtOH

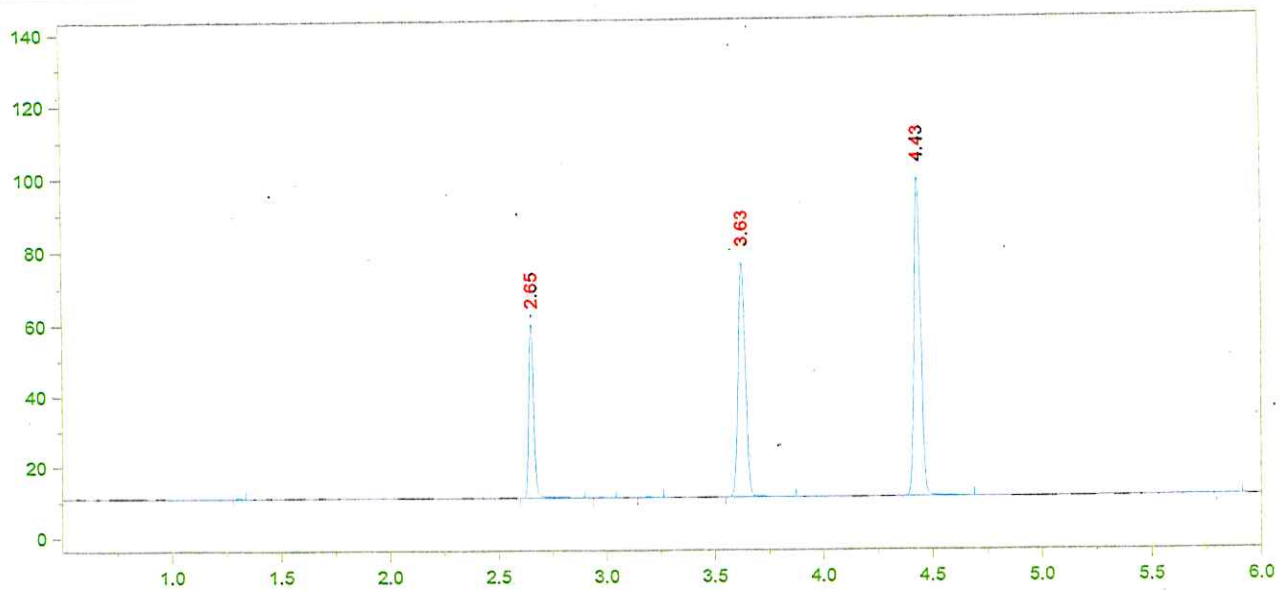
±5%: 0.0753 - 0.0832

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

12/24/15

15-27-160

45



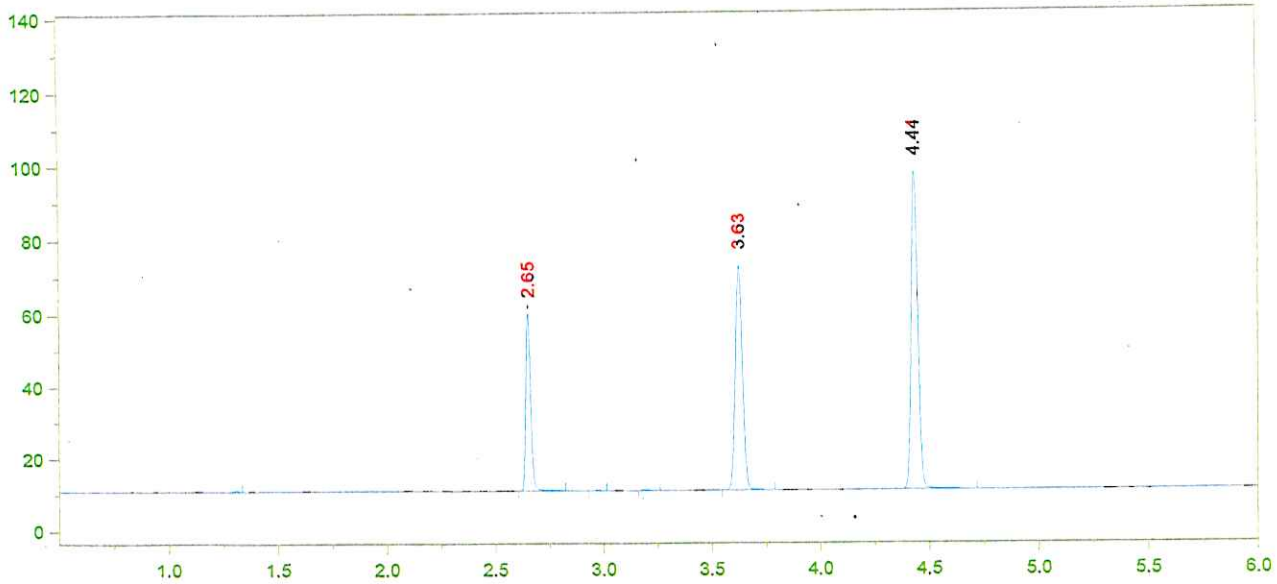
Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:24:05 AM
Bound File Name = VFL12232015.0010.RAW
Sample Name = CCS
Date Taken = 12/23/2015 1:55:41 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	76804	0.0772
5	3.63	t-Butanol	151028	1.0225
6	4.43	n-Propanol	187755	1.0000

15-27-160

46



Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Bound File Name = VFL12232015.0011.RAW
Sample Name = CCS
Date Taken = 12/23/2015 2:11:04 PM
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL

Today's Time = 8:24:12 AM

VFL Headspace Alcohol

Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
3	2.65	Ethanol	76483	0.0780
6	3.63	t-Butanol	142196	0.9771
7	4.44	n-Propanol	184984	1.0000

CCS Mean: 0.0776 g/100 mL EtOH

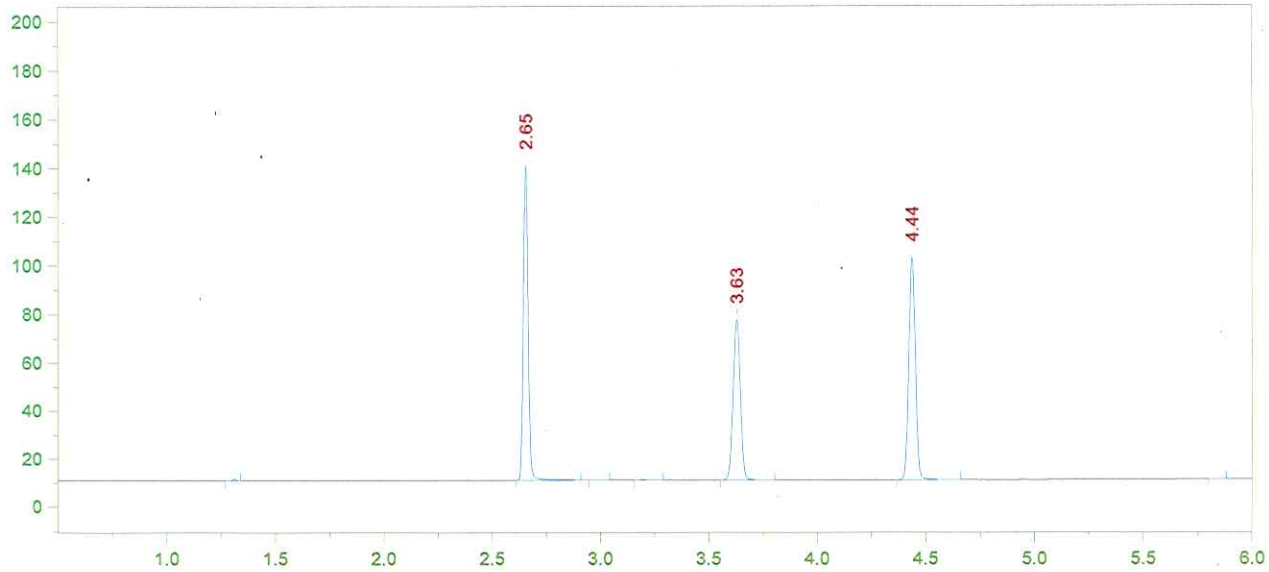
±5% : 0.0757 - 0.0815

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

DS 12/24/15

15-27-160

DS 47

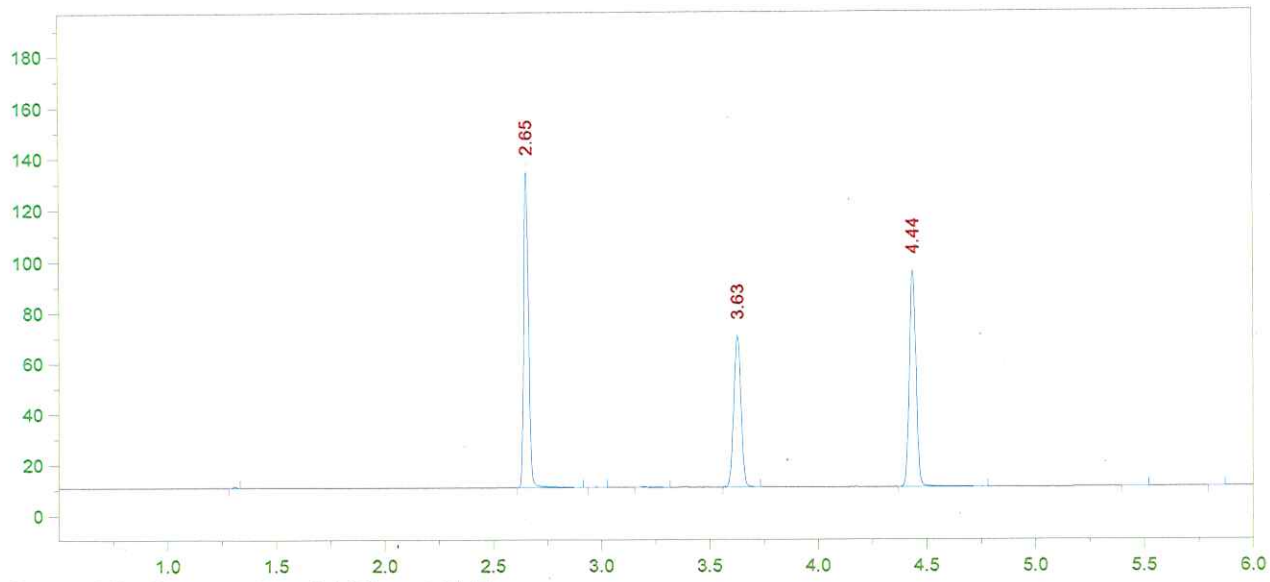


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:24:18 AM
Bound File Name = VFL12232015.0012.RAW
Sample Name = 0.16 DP
Date Taken = 12/23/2015 2:25:35 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	199679	0.1941	0.1584
5	3.63	t-Butanol	154393	1.0105	0.8248
6	4.44	n-Propanol	194223	1.0000	0.8162

15-27-160 48

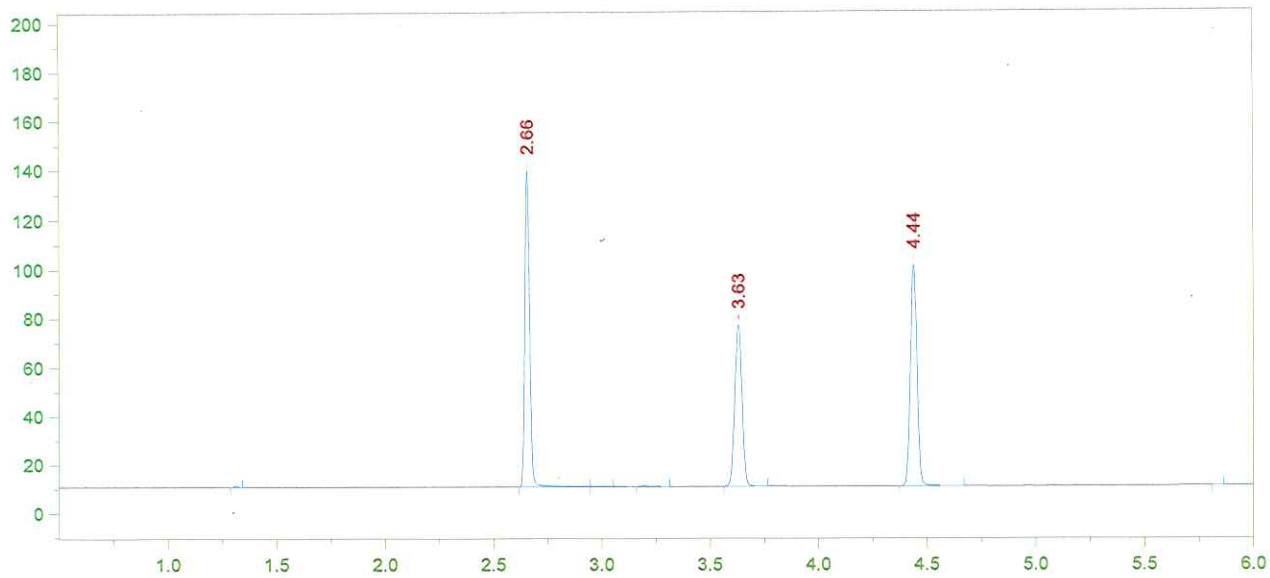


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:24:24 AM
Bound File Name = VFL12232015.0013.RAW
Sample Name = 0.16 DP
Date Taken = 12/23/2015 2:41:18 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	189199	0.1981	0.1617
5	3.63	t-Butanol	137916	0.9724	0.7936
6	4.44	n-Propanol	180298	1.0000	0.8162

15-27-160 49

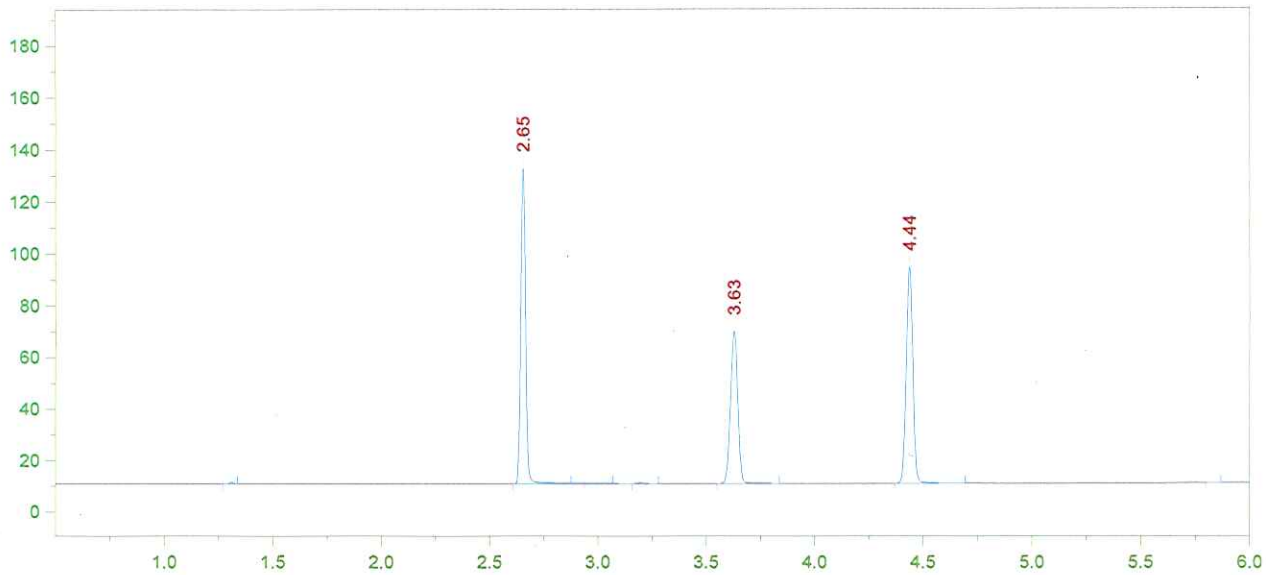


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:24:31 AM
Bound File Name = VFL12232015.0014.RAW
Sample Name = 0.16 DP
Date Taken = 12/23/2015 2:57:24 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	197187	0.1942	0.1585
5	3.63	t-Butanol	152935	1.0145	0.8281
6	4.44	n-Propanol	191622	1.0000	0.8162

15-27-160 50

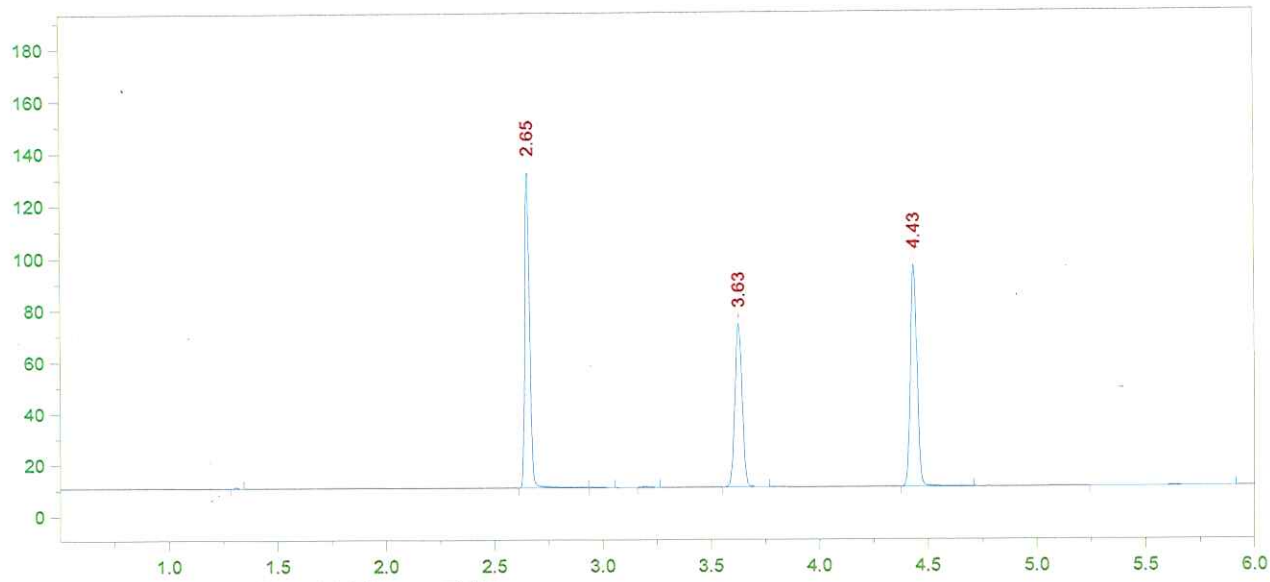


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:24:37 AM
Bound File Name = VFL12232015.0015.RAW
Sample Name = 0.16 DP
Date Taken = 12/23/2015 3:11:35 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	186311	0.1981	0.1617
5	3.63	t-Butanol	137122	0.9818	0.8013
6	4.44	n-Propanol	177542	1.0000	0.8162

15-27-160 51

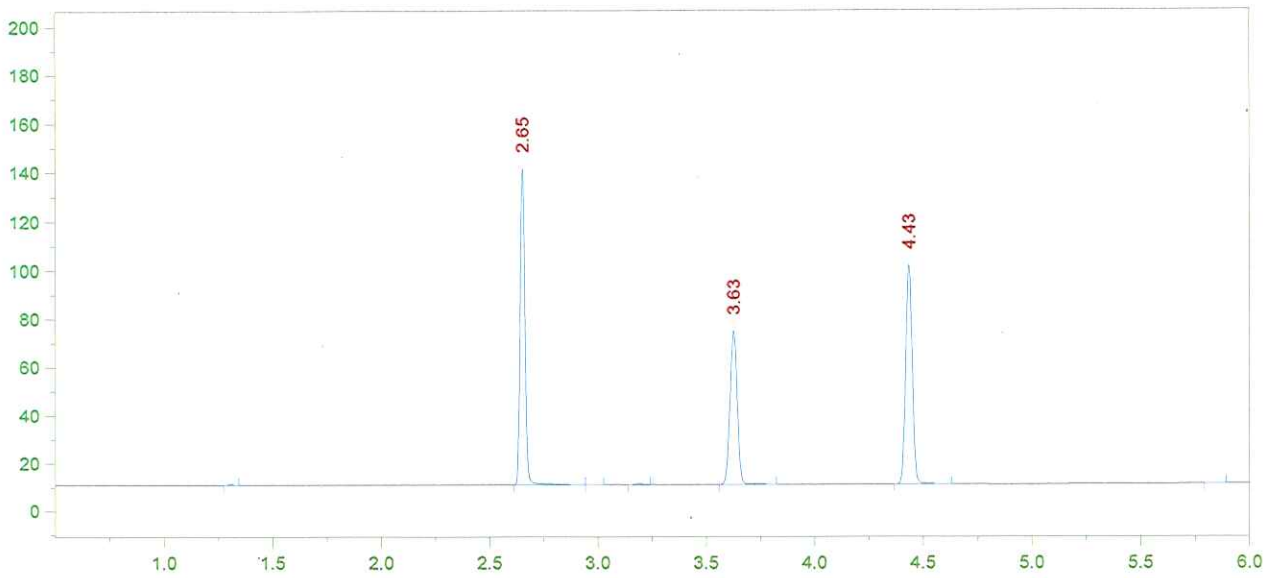


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:24:43 AM
Bound File Name = VFL12232015.0016.RAW
Sample Name = 0.16 DP
Date Taken = 12/23/2015 3:28:46 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	187277	0.1946	0.1588
5	3.63	t-Butanol	146017	1.0218	0.8340
6	4.43	n-Propanol	181648	1.0000	0.8162

15-27-160 52

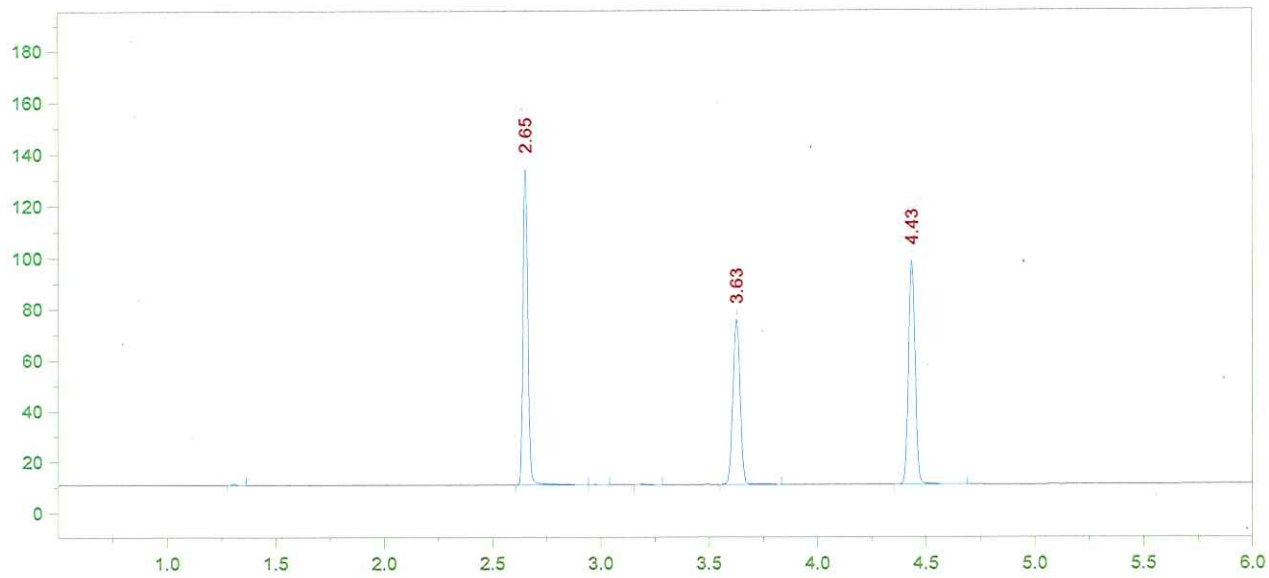


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:24:48 AM
Bound File Name = VFL12232015.0017.RAW
Sample Name = 0.16 DP
Date Taken = 12/23/2015 3:42:39 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	201621	0.1969	0.1607
5	3.63	t-Butanol	147388	0.9694	0.7912
6	4.43	n-Propanol	193272	1.0000	0.8162

15-27-160 53

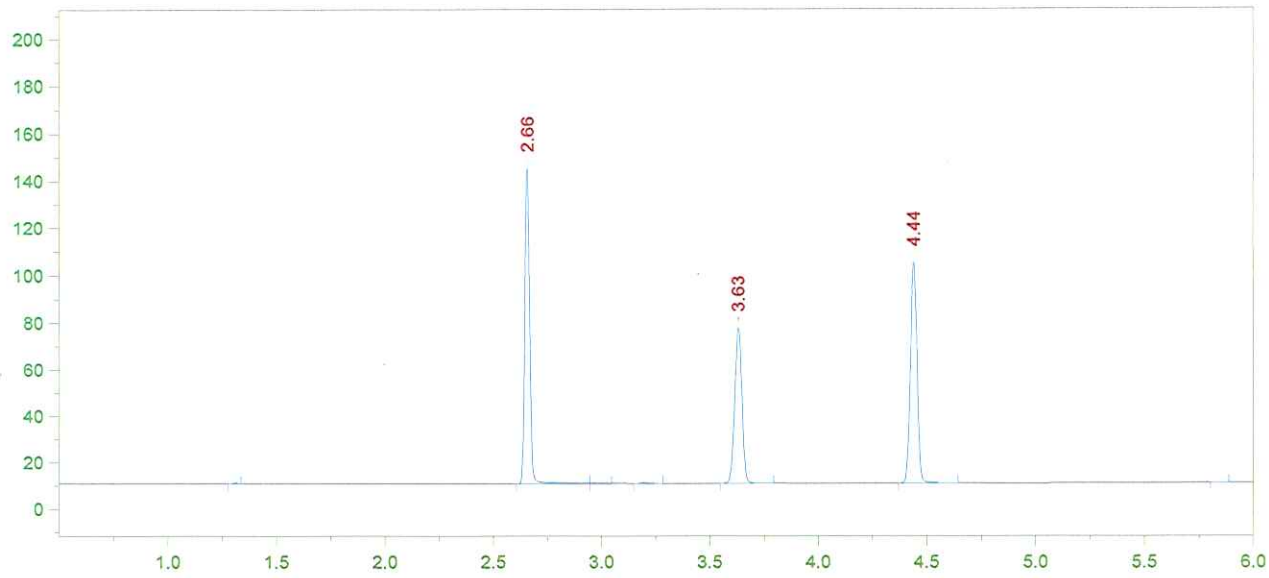


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:24:56 AM
Bound File Name = VFL12232015.0018.RAW
Sample Name = 0.16 DP
Date Taken = 12/23/2015 4:00:10 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.65	Ethanol	190519	0.1935	0.1579
6	3.63	t-Butanol	149945	1.0256	0.8371
7	4.43	n-Propanol	185842	1.0000	0.8162

15-27-160 54

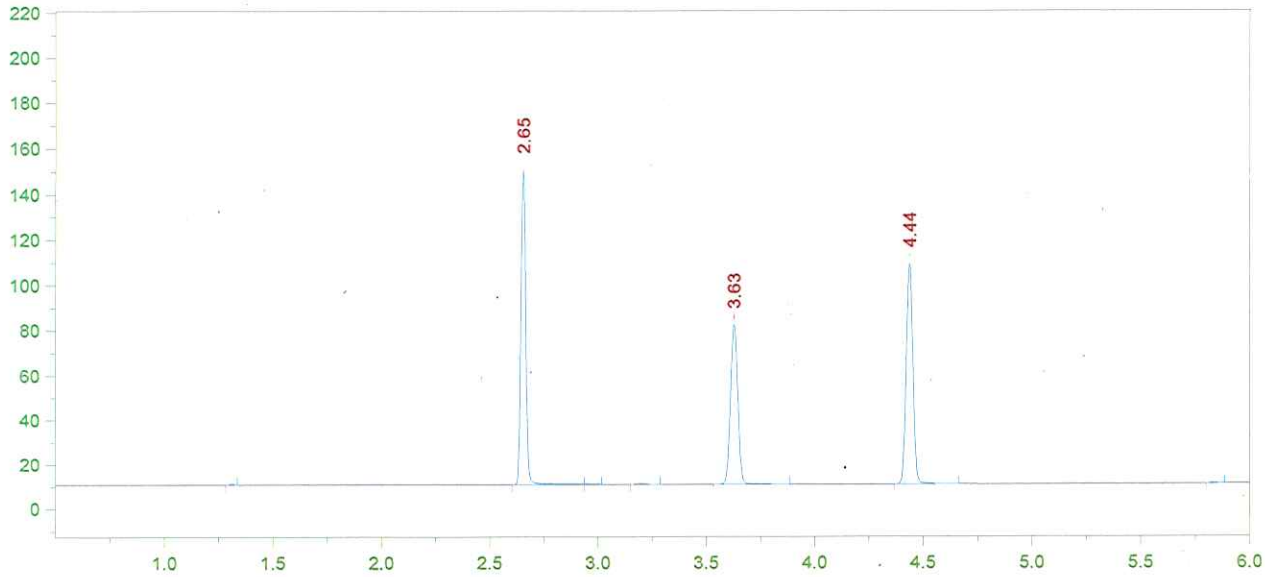


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:25:03 AM
Bound File Name = VFL12232015.0019.RAW
Sample Name = 0.16 JD
Date Taken = 12/23/2015 4:13:26 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.66	Ethanol	206690	0.1954	0.1595
6	3.63	t-Butanol	154054	0.9809	0.8006
7	4.44	n-Propanol	199631	1.0000	0.8162

15-27-160 55



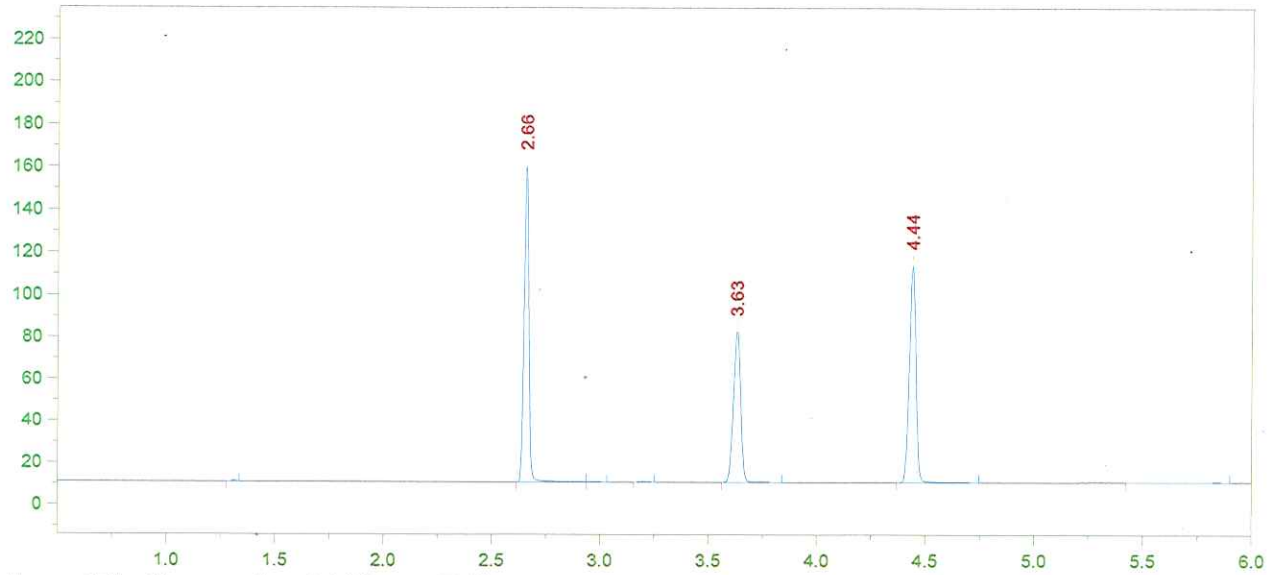
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:25:10 AM
Bound File Name = VFL12232015.0020.RAW
Sample Name = 0.16 JD
Date Taken = 12/23/2015 4:31:35 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	214578	0.1941	0.1584
5	3.63	t-Butanol	166154	1.0120	0.8260
6	4.44	n-Propanol	208712	1.0000	0.8162

15-27-160

56



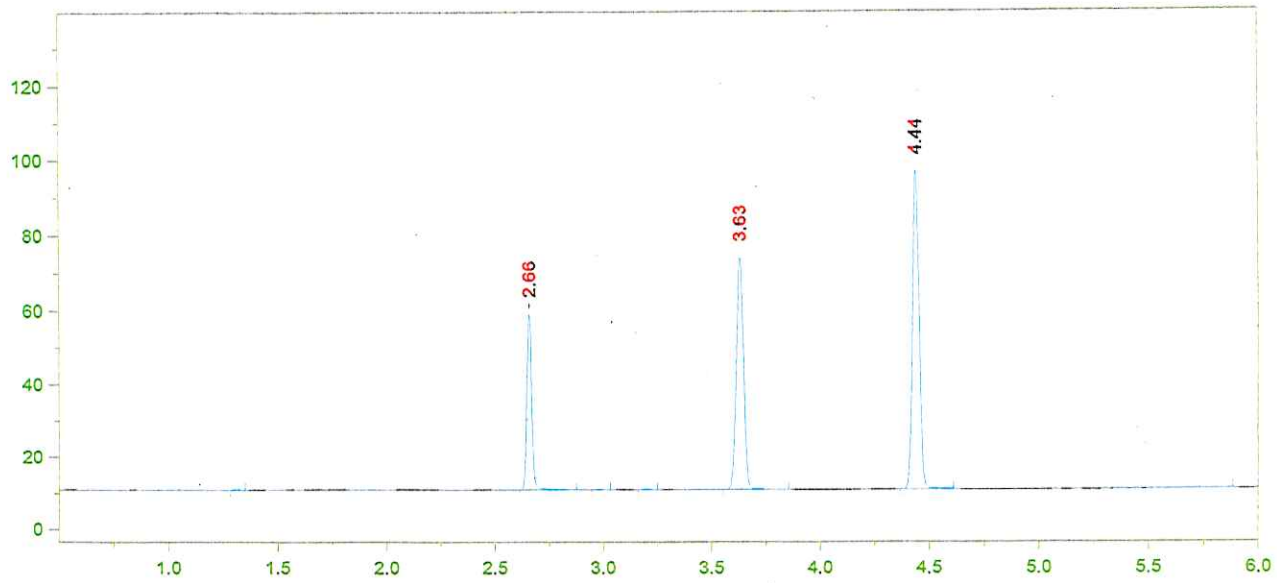
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:25:16 AM
Bound File Name = VFL12232015.0021.RAW
Sample Name = 0.16 JD
Date Taken = 12/23/2015 4:46:30 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.66	Ethanol	228238	0.1971	0.1609
5	3.63	t-Butanol	166439	0.9678	0.7899
6	4.44	n-Propanol	218602	1.0000	0.8162

15-27-160

57



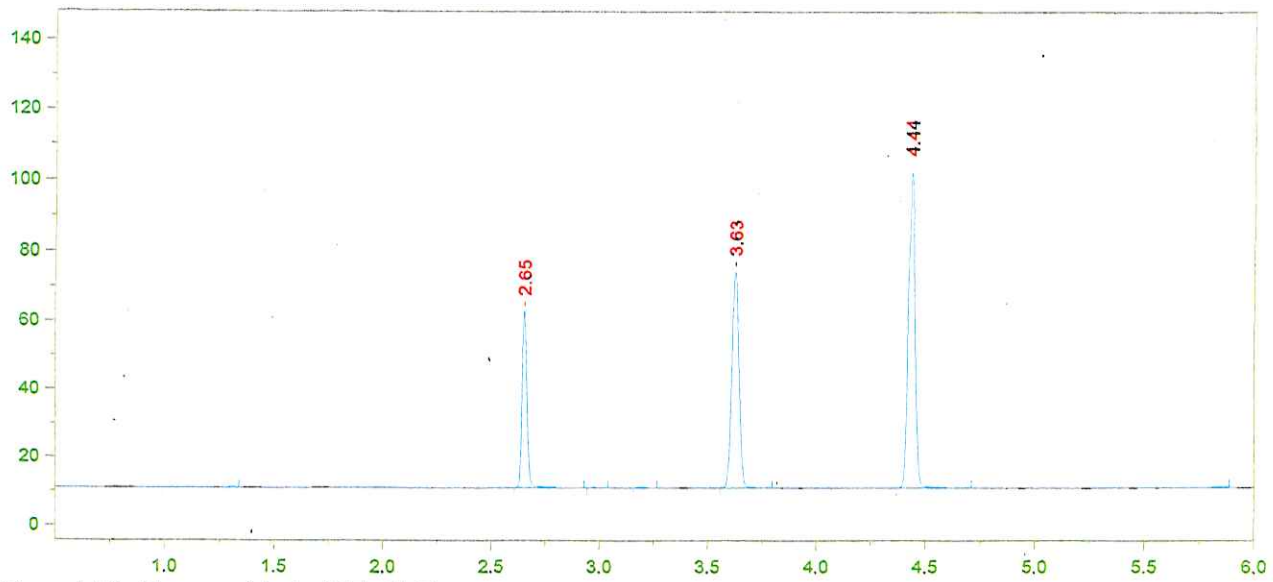
Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:25:21 AM
Bound File Name = VFL12232015.0022.RAW
Sample Name = CCS
Date Taken = 12/23/2015 5:03:02 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	74805	0.0777
5	3.63	t-Butanol	145366	1.0174
6	4.44	n-Propanol	181617	1.0000

15-27-160

58



Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:25:29 AM
Bound File Name = VFL12232015.0023.RAW
Sample Name = CCS
Date Taken = 12/23/2015 5:16:57 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	80365	0.0782
5	3.63	t-Butanol	146144	0.9582
6	4.44	n-Propanol	193870	1.0000

CCS MEAN: 0.0779 g/100 mL EtOH

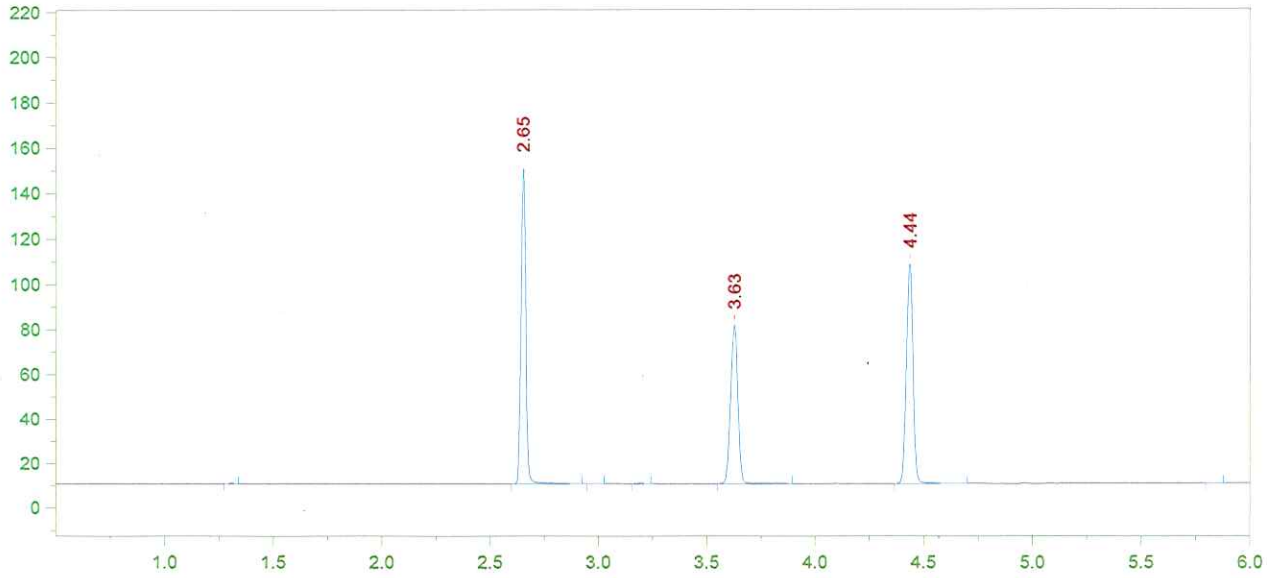
±5%: 0.0740 - 0.0818

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

12/24/15

12-27-16

59



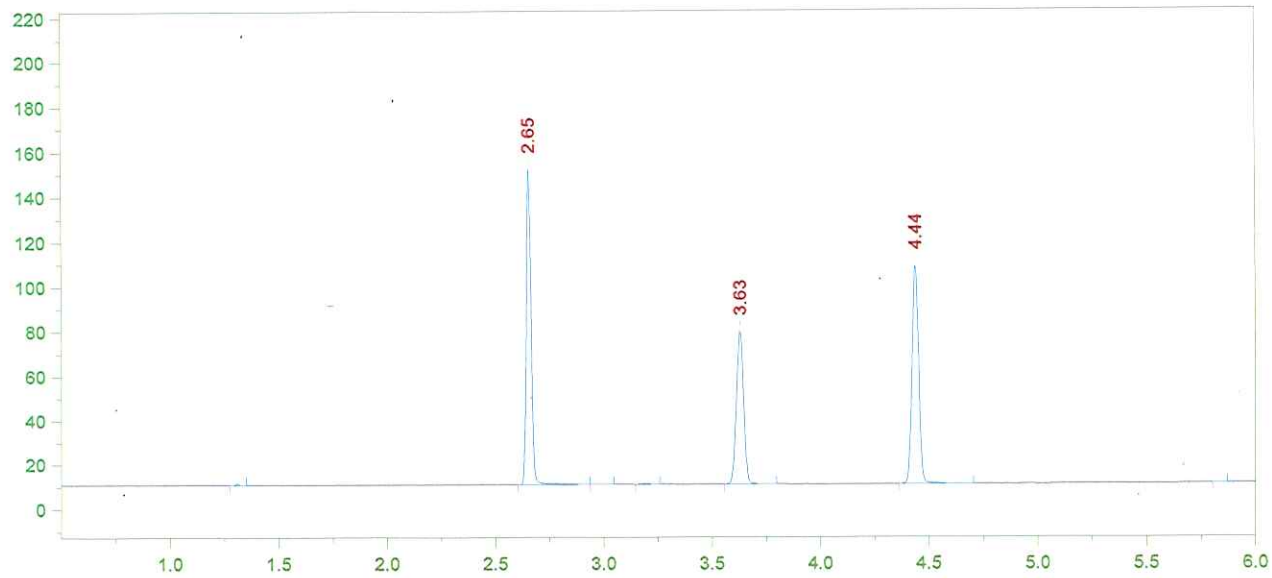
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:25:36 AM
Bound File Name = VFL12232015.0024.RAW
Sample Name = 0.16 JD
Date Taken = 12/23/2015 5:34:26 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	214908	0.1945	0.1588
5	3.63	t-Butanol	163964	0.9994	0.8157
6	4.44	n-Propanol	208553	1.0000	0.8162

15-27-160

60



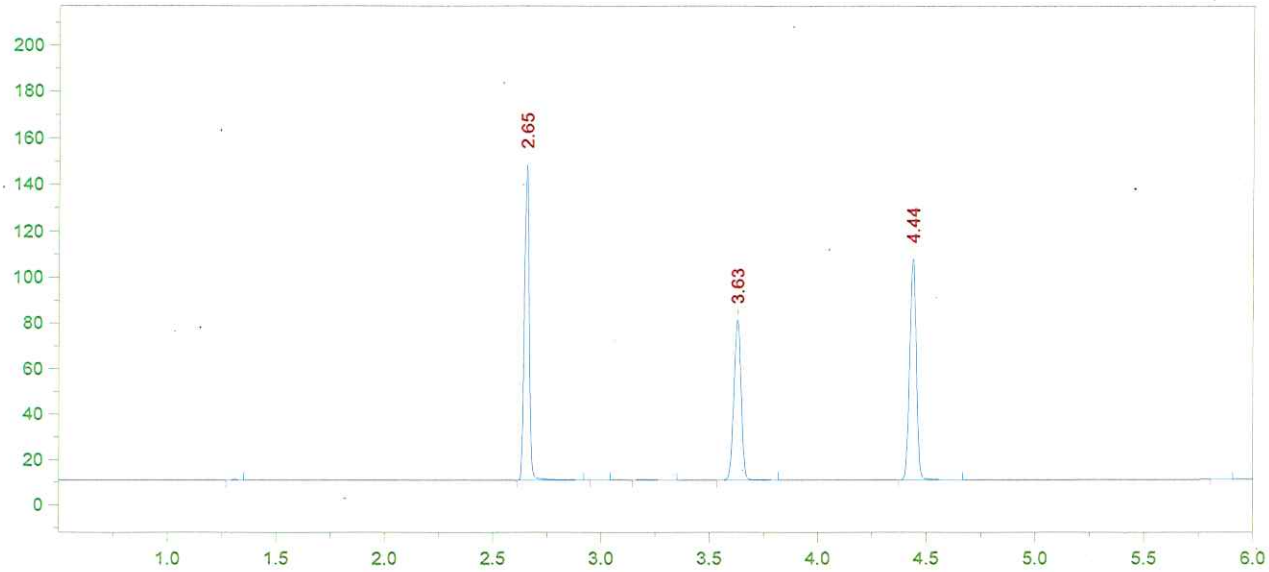
Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:25:42 AM
Bound File Name = VFL12232015.0025.RAW
Sample Name = 0.16 JD
Date Taken = 12/23/2015 5:48:12 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	215220	0.1954	0.1595
5	3.63	t-Butanol	159189	0.9736	0.7946
6	4.44	n-Propanol	207851	1.0000	0.8162

15-27-160

61

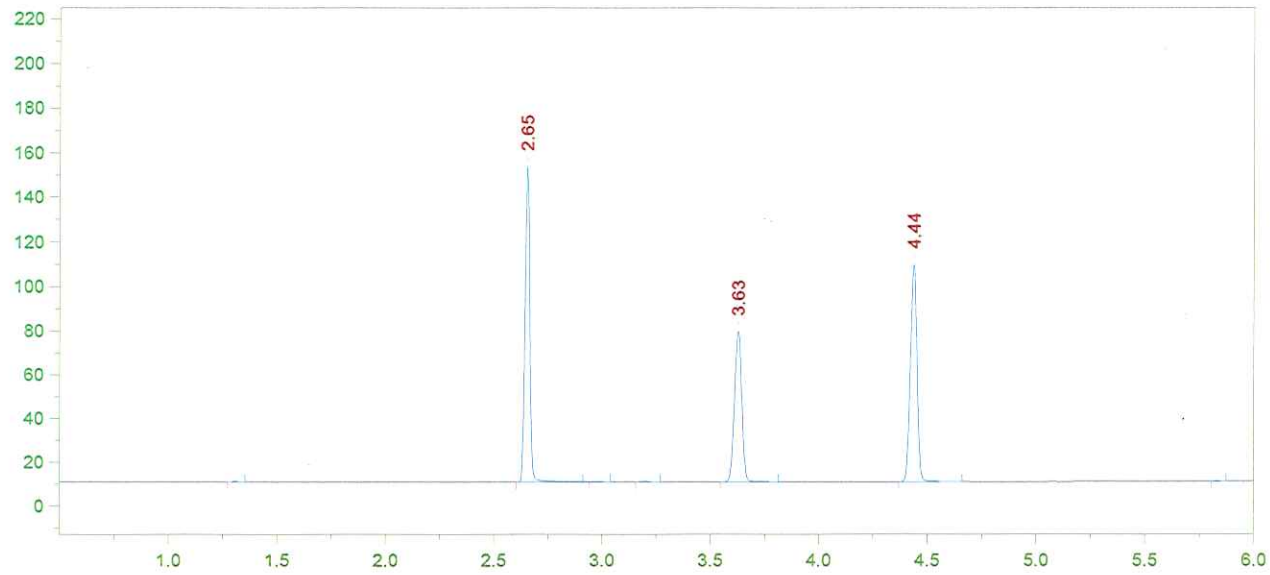


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:25:48 AM
Bound File Name = VFL12232015.0026.RAW
Sample Name = 0.16 JD
Date Taken = 12/23/2015 6:05:50 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
3	2.65	Ethanol	211474	0.1946	0.1588
6	3.63	t-Butanol	162758	1.0085	0.8231
7	4.44	n-Propanol	205150	1.0000	0.8162

15-27-160 62

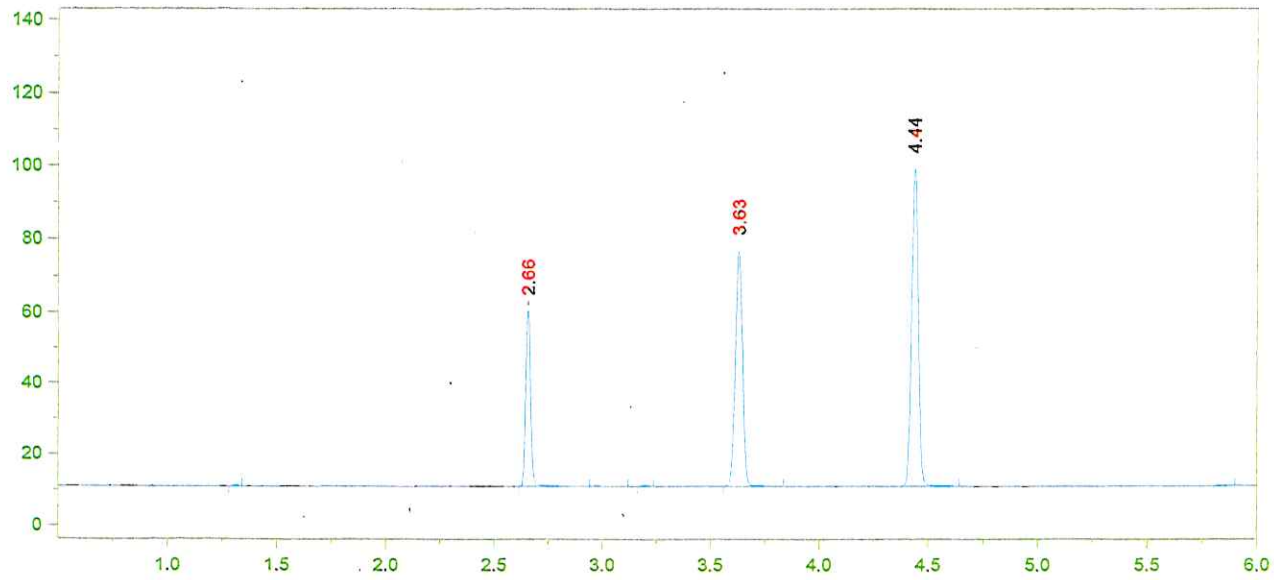


Format File Name = simsolnVFL.met.FMT

Today's Date = 12/24/2015 Today's Time = 8:25:54 AM
Bound File Name = VFL12232015.0027.RAW
Sample Name = 0.16 JD
Date Taken = 12/23/2015 6:19:39 PM VDH Headspace Alcohol
Method file = simsoln.met
Calibration file = VFL12232015.CAL Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL	Headspace Conversion
2	2.65	Ethanol	217883	0.1966	0.1605
5	3.63	t-Butanol	159476	0.9693	0.7912
6	4.44	n-Propanol	209133	1.0000	0.8162

15-27-160 63



Format File Name = AlcoholVFL.FMT

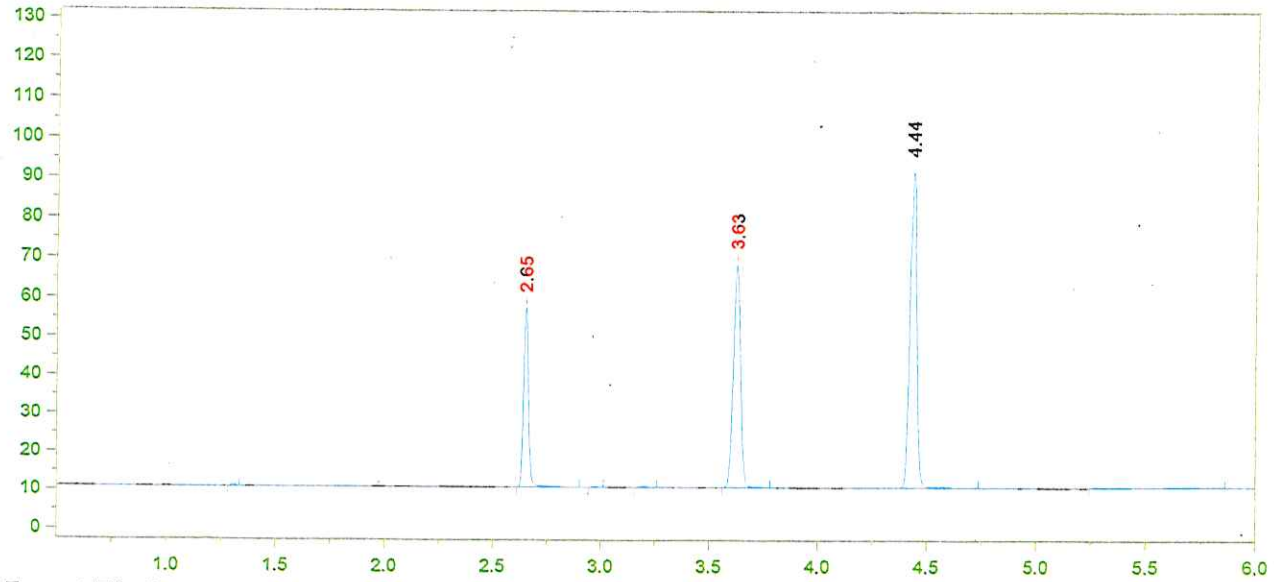
Today's Date = 12/24/2015
Today's Time = 8:26:40 AM
Bound File Name = VFL12232015.0034.RAW
Sample Name = CCS
Date Taken = 12/23/2015 8:11:28 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	76609	0.0774
5	3.63	t-Butanol	151719	1.0321
6	4.44	n-Propanol	186855	1.0000

15-27-160

64

Chrom Perfect Chromatogram Report



Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:26:47 AM
Bound File Name = VFL12232015.0035.RAW
Sample Name = CCS
Date Taken = 12/23/2015 8:25:24 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.65	Ethanol	72607	0.0792
5	3.63	t-Butanol	132272	0.9722
6	4.44	n-Propanol	172944	1.0000

CCS MSW: 0.0783 g/100mL EtOH

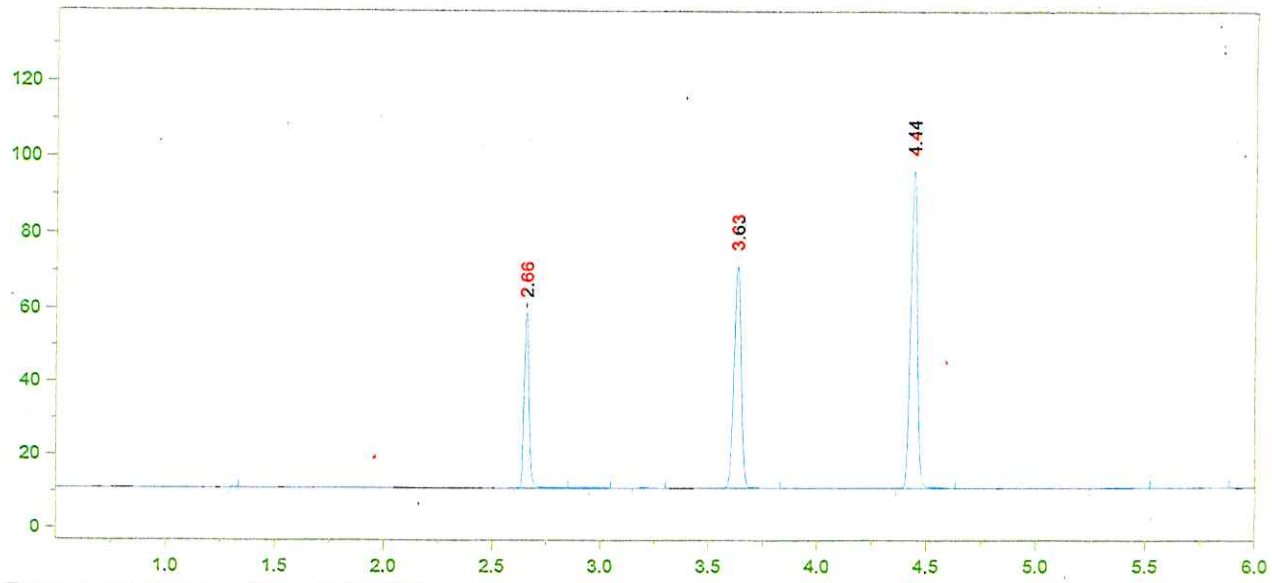
±5%: 0.0744 - 0.0822

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

12/24/15

15-27-160

65



Format File Name = AlcoholVFL.FMT

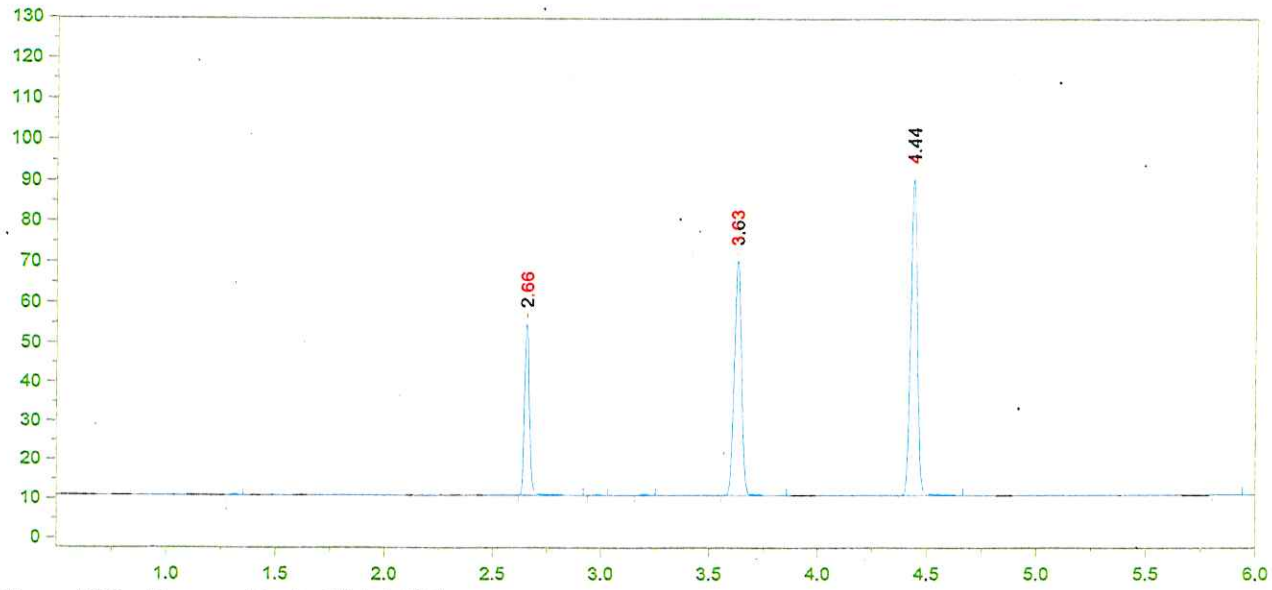
Today's Date = 12/24/2015
Today's Time = 8:27:50 AM
Bound File Name = VFL12232015.0045.RAW
Sample Name = CCS
Date Taken = 12/23/2015 11:00:50 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	74907	0.0780
5	3.63	t-Butanol	139295	0.9766
6	4.44	n-Propanol	181313	1.0000

15-27-160

66

Chrom Perfect Chromatogram Report



Format File Name = AlcoholVFL.FMT

Today's Date = 12/24/2015
Today's Time = 8:27:56 AM
Bound File Name = VFL12232015.0046.RAW
Sample Name = CCS
Date Taken = 12/23/2015 11:18:31 PM
VFL Headspace Alcohol
Method file = Blood Alc temp VFL.MET
Calibration file = VFL12232015.CAL
Calibration Version = 7

Peak Number	Ret Time (min)	Peak Name	Area	Amount % WT/VOL
2	2.66	Ethanol	68142	0.0764
5	3.63	t-Butanol	137117	1.0353
6	4.44	n-Propanol	168352	1.0000

CCS MEAN: 0.0772 g/100 mL EtOH

±5%: 0.073 - 0.081

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

12/24/15

15-27-160

67