

**WASHINGTON STATE TOXICOLOGY LABORATORY**  
 FORENSIC LABORATORY SERVICES BUREAU  
 WASHINGTON STATE PATROL  
 2203 AIRPORT WAY S, SUITE 360  
 SEATTLE, WASHINGTON 98134-2027  
 (206) 262-6100 FAX (206) 262-6145

Preparation and certification of **0.08 g/210L Quality Assurance solution**

Batch number **03006**

Date: 2/12/2003

Preparation: 22.2 mL of absolute ethyl alcohol diluted to 18 Liters with water

Concentration of ethanol (g/100mL) measured by gas chromatography:

	Anal 1	Anal 2	Anal 3	Anal 4	Anal 5	Anal 6	Anal 7	Anal 8	Anal 9	Anal10	Anal 11	Anal 12
1	0.096	0.096	0.096									
2	0.097	0.096	0.097									
3	0.096	0.096	0.097									
4	0.096	0.096	0.097									
5	0.096	0.096	0.097									
Ctrl	0.099	0.099	0.100									

**External Control:**

Lot #: A021986 Exp date: 01/05

Target concentration: 0.10 g/100mL

**Statistics:**

Avg. solution concent.: 0.0963 g/100 mL

SD: 0.00049

Range (3xSD): 0.0949 to 0.0978

Precision CV (%): 0.5060 %

**Equivalent vapor concent.:** 0.0783 g/210L

Analyst	Name	Signature	Date
1	Ruth Luthi		02/13/03
2	Estuardo J. Miranda	<i>Estuardo J. Miranda</i>	02/13/03
3	William P Marshall	<i>William P Marshall</i>	02/18/03
4			
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12			

Prepared by: Ruth Luthi according to the approved protocol



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BAC VERIFIER DATAMASTER QUALITY ASSURANCE SOLUTION  
CERTIFICATION

I, Ruth Luthi, do certify under penalty of perjury as follows:

I am employed by the Washington State Toxicology Laboratory, and a part of my responsibilities includes preparing and testing the alcohol solutions for the BAC Verifier Data Master breath test instrument.

I possess the following qualifications: BS degree in Chemistry and twenty-two years of experience in analytical chemistry, and eighteen years of experience in the Washington State Toxicology Laboratory.

The quality assurance solution, Lot Number 03006, was prepared in the Washington State Toxicology Laboratory. I examined and tested this solution. The mean concentration of the alcohol was 0.0963 grams per 100ml.

Dated: 2/24/03

Seattle, WA

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Ruth Luthi  
Forensic Toxicologist

RL/bf  
RLQA





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BAC VERIFIER DATAMASTER QUALITY ASSURANCE SOLUTION  
CERTIFICATION

I, Estuardo J. Miranda, do certify under penalty of perjury as follows:

I am employed by the Washington State Toxicology Laboratory, and a part of my responsibilities includes preparing and testing the alcohol solutions for the BAC Verifier Data Master breath test instrument.

I possess the following qualifications: Bachelor of Science in Chemistry, Master of Science in Zoology, seven years experience in biochemical research and five years experience in Forensic Toxicology.

The quality assurance solution, Lot Number 03006 was prepared in the Washington State Toxicology Laboratory. I examined and tested this solution. The mean concentration of the alcohol was 0.0963 grams per 100ml.

Dated: 2/24/03  
Seattle, WA

Estuardo J. Miranda  
Forensic Toxicologist

EM/bf  
EMQA





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BAC VERIFIER DATAMASTER QUALITY ASSURANCE SOLUTION  
CERTIFICATION

I, William P. Marshall, do certify under penalty of perjury as follows:

I am employed by the Washington State Toxicology Laboratory, and a part of my responsibilities includes preparing and testing the alcohol solutions for the BAC Verifier Data Master breath test instrument.

I possess the following qualifications: BS degree in Chemistry and twenty-nine years of analytical laboratory experience including thirteen years of toxicology experience.

The quality assurance solution, Lot Number 03006 was prepared in the Washington State Toxicology Laboratory. I examined and tested this solution. The mean concentration of the alcohol was 0.0963 grams per 100ml.

Dated: 2/24/03  
Seattle, WA

William P. Marshall  
Forensic Toxicologist

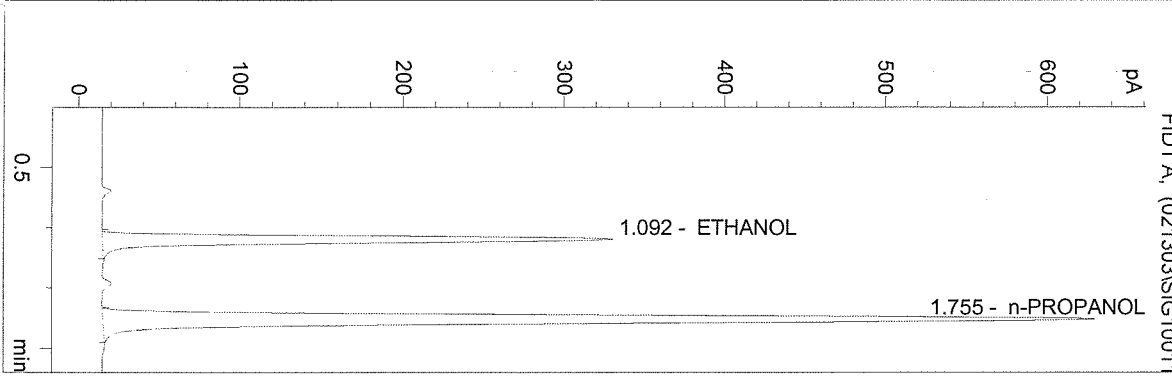
WM/bf  
WMQA

WASHINGTON STATE TOXICOLOGY LABORATORY

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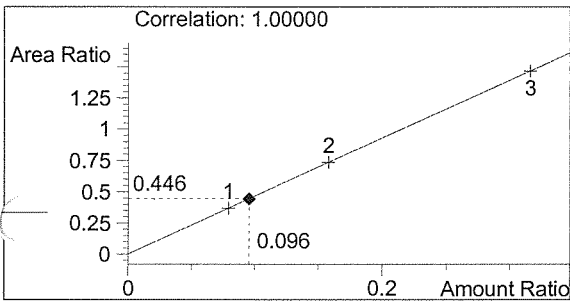
03006 0.08 QA  
 RUTH LUTHI

vial # 11

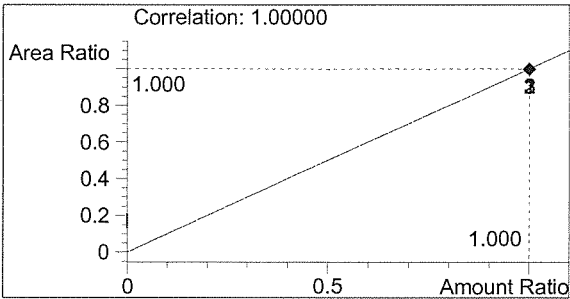


#	Compound	Area	RT
1	ETHANOL	1253	1.092
2	n-PROPANOL	2807	1.755

Totals:



ETHANOL 0.096 g/100mL



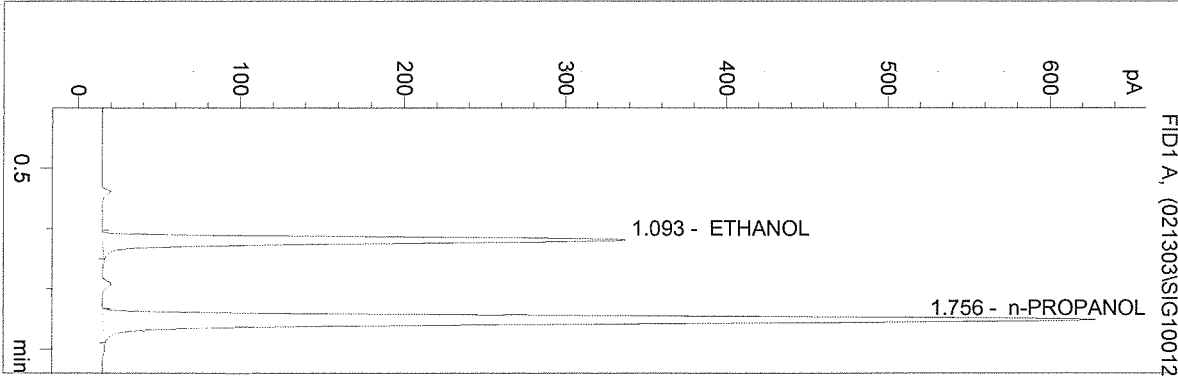
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

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 DB-ALC1

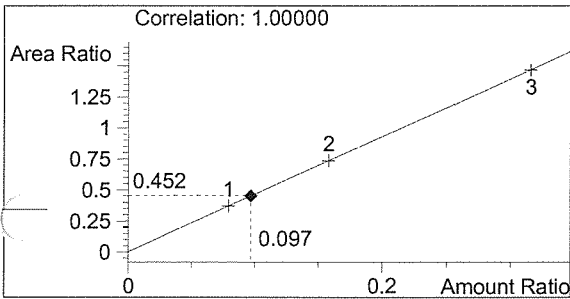
03006 0.08 QA  
 RUTH LUTHI

vial # 12

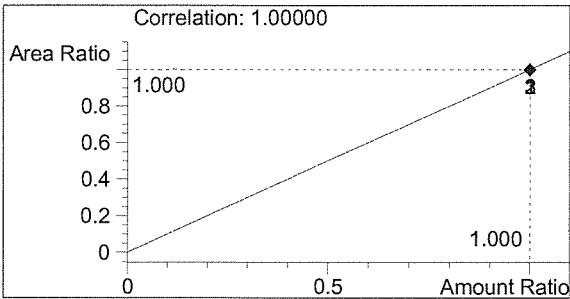


#	Compound	Area	RT
1	ETHANOL	1261	1.093
2	n-PROPANOL	2790	1.756

Totals:



ETHANOL 0.097 g/100mL



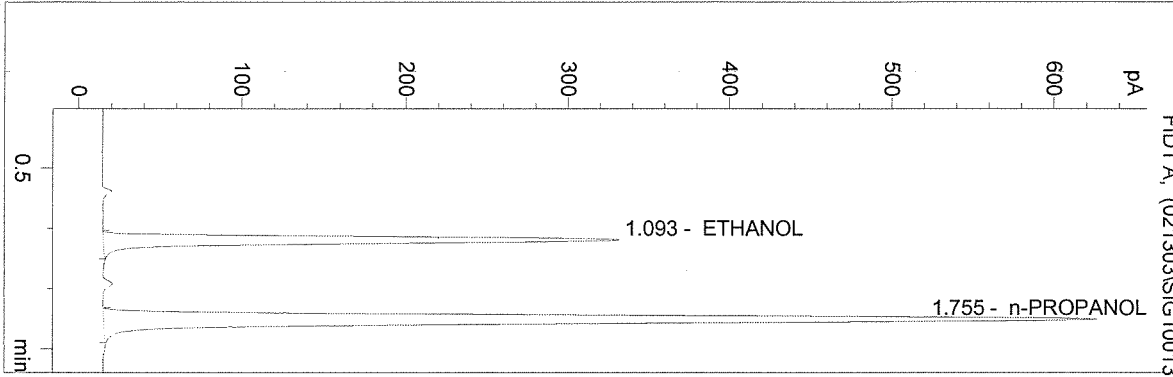
n-PROPANOL 1.000 g/100mL

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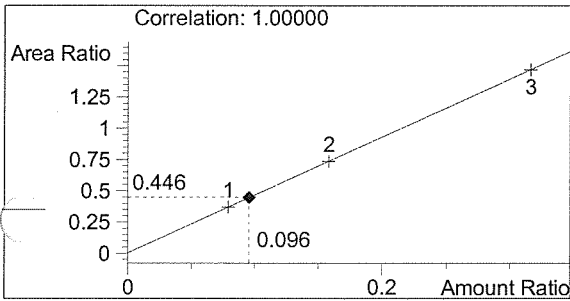
03006 0.08 QA  
 RUTH LUTHI

vial # 13

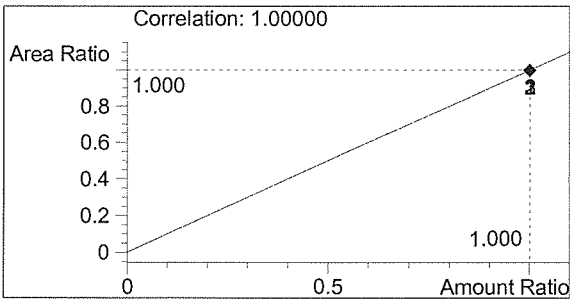


#	Compound	Area	RT
1	ETHANOL	1238	1.093
2	n-PROPANOL	2774	1.755

Totals:



ETHANOL 0.096 g/100mL

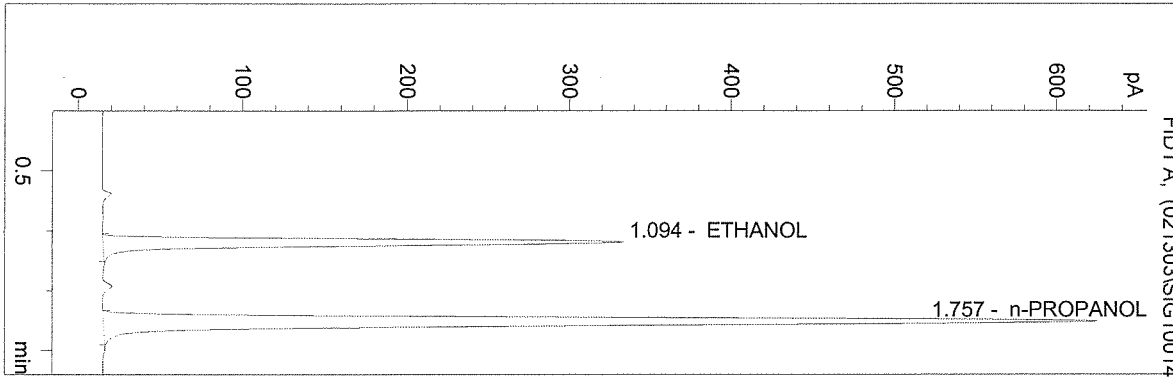


n-PROPANOL 1.000 g/100mL

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 DB-ALC1

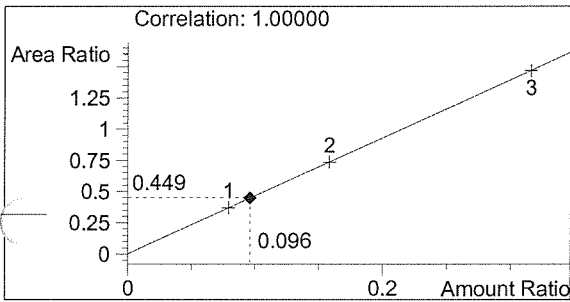
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 RUTH LUTHI

vial # 14

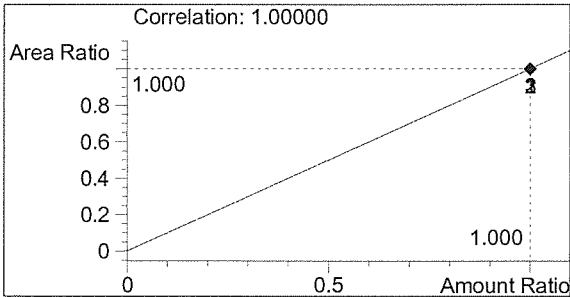


#	Compound	Area	RT
1	ETHANOL	1236	1.094
2	n-PROPANOL	2753	1.757

Totals:



ETHANOL 0.096 g/100mL



n-PROPANOL 1.000 g/100mL

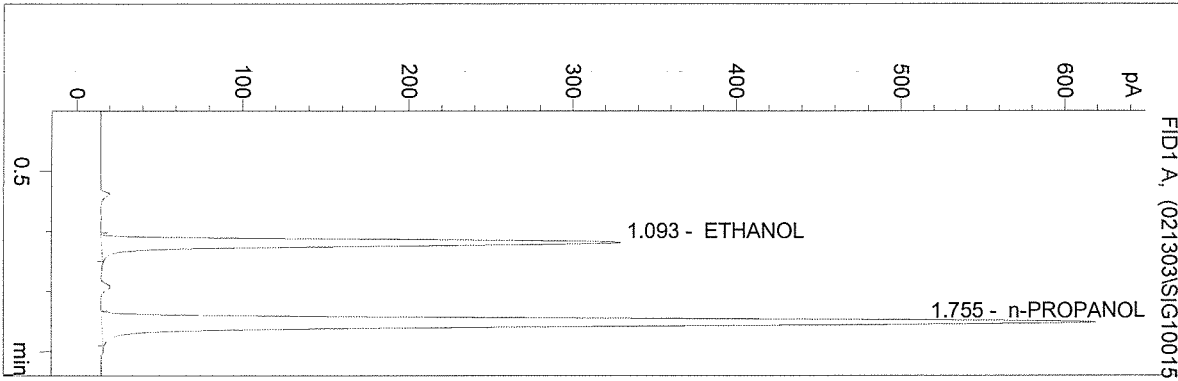


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 DB-ALC1

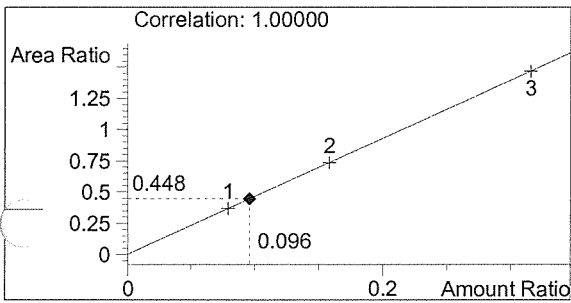
03006 0.08 QA  
 RUTH LUTHI

vial # 15

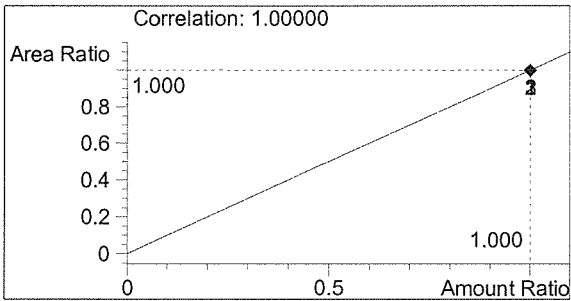


#	Compound	Area	RT
1	ETHANOL	1222	1.093
2	n-PROPANOL	2729	1.755

Totals:



ETHANOL 0.096 g/100mL



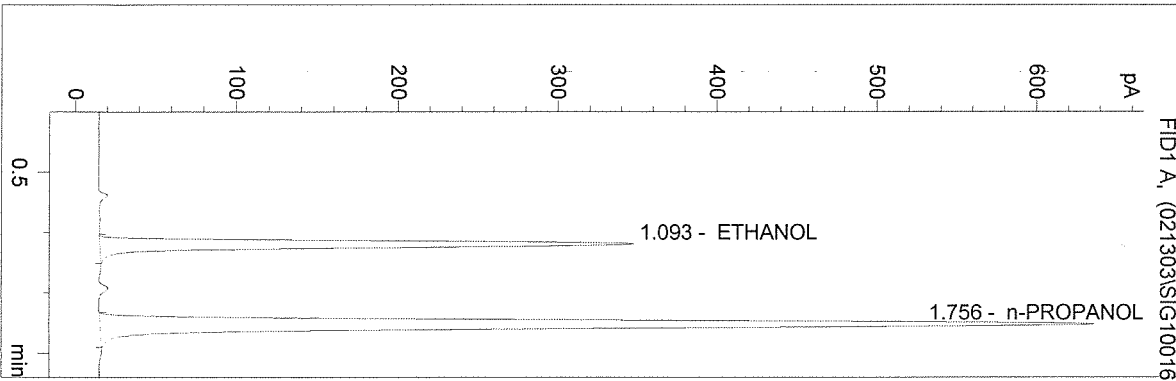
n-PROPANOL 1.000 g/100mL

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 DB-ALC1

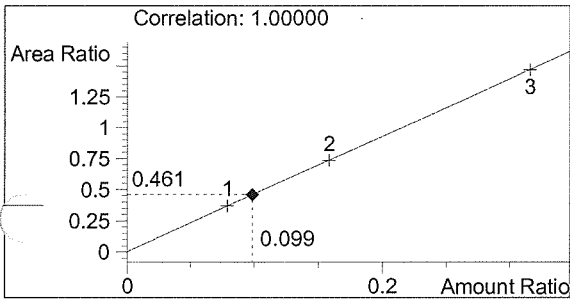
0.100 CTRL  
 RUTH LUTHI

vial # 16

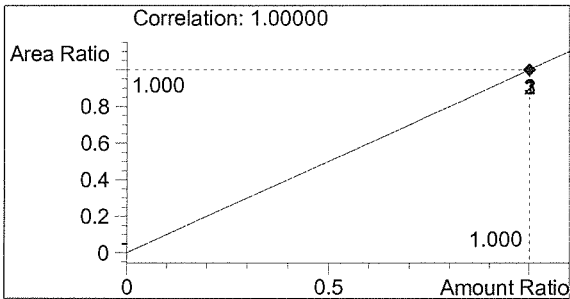


#	Compound	Area	RT
1	ETHANOL	1289	1.093
2	n-PROPANOL	2799	1.756

Totals:



ETHANOL 0.099 g/100mL



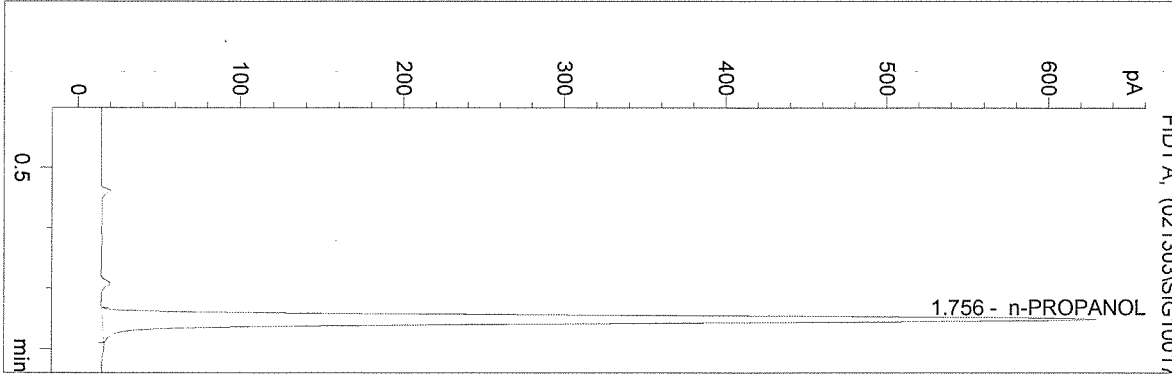
n-PROPANOL 1.000 g/100mL

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Instrument 3  
DB-ALC1

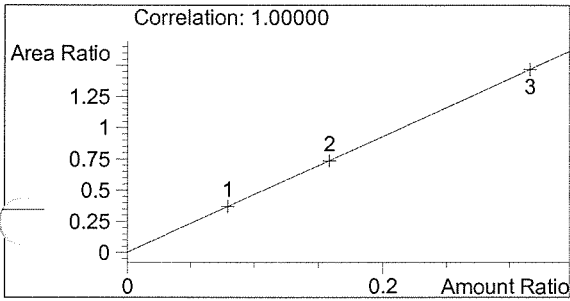
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RUTH LUTHI

vial # 17

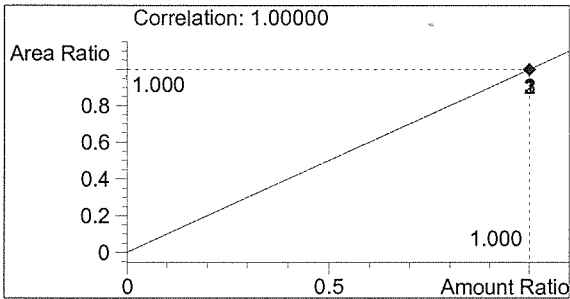


#	Compound	Area	RT
1	ETHANOL	0	0.000
2	n-PROPANOL	2797	1.756

Totals:



ETHANOL 0.000 g/100mL



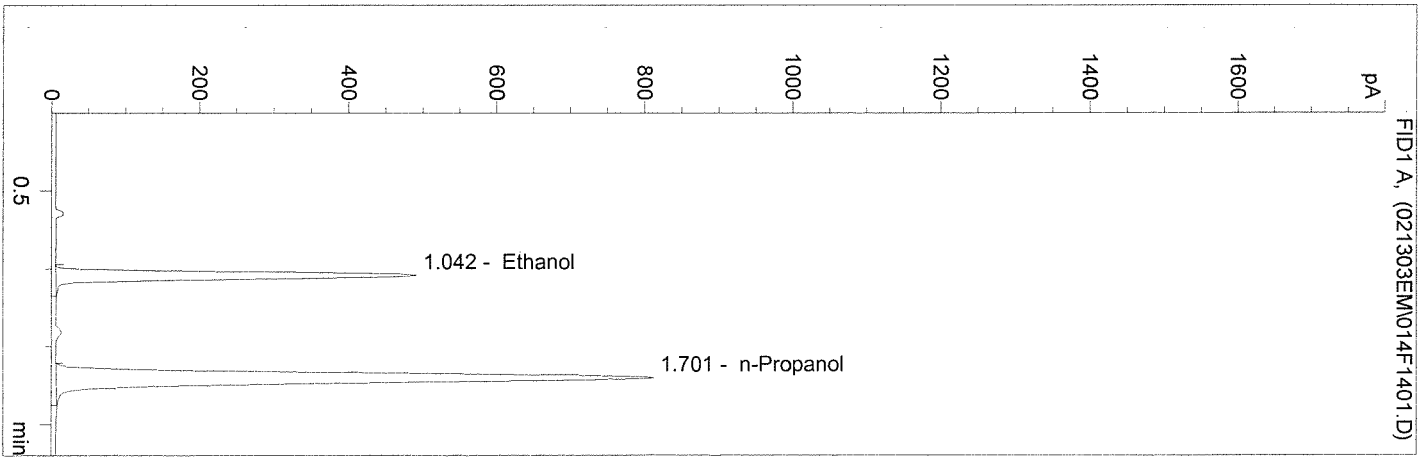
n-PROPANOL 1.000 g/100mL

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 ALC1

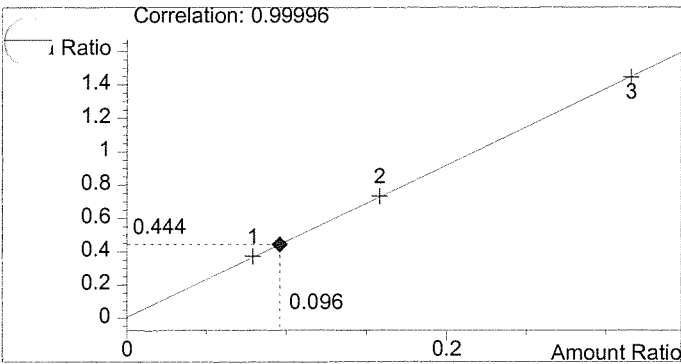
Q.A. Sol. 03006  
 Estuardo J. Miranda

vial # 14

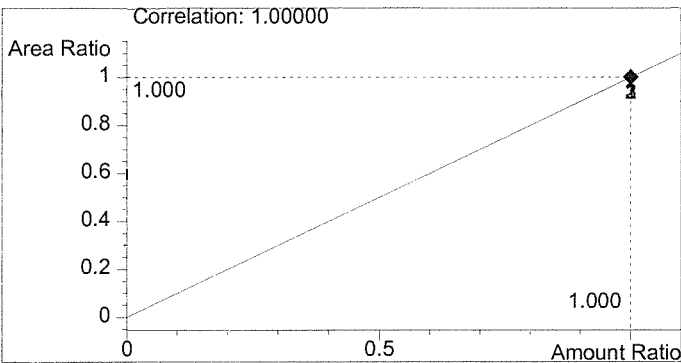


#	Compound	Area	RT
1	Ethanol	1523	1.042
2	n-Propanol	3430	1.701

Totals:



Ethanol 0.096 g/100ml



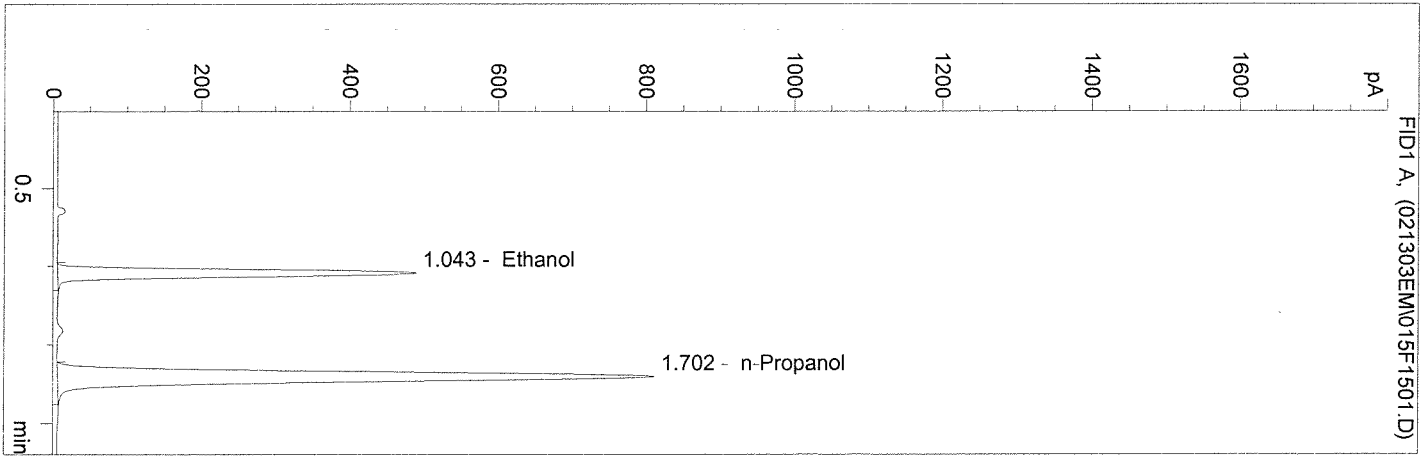
n-Propanol 1.000 g/100ml

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 ALC1

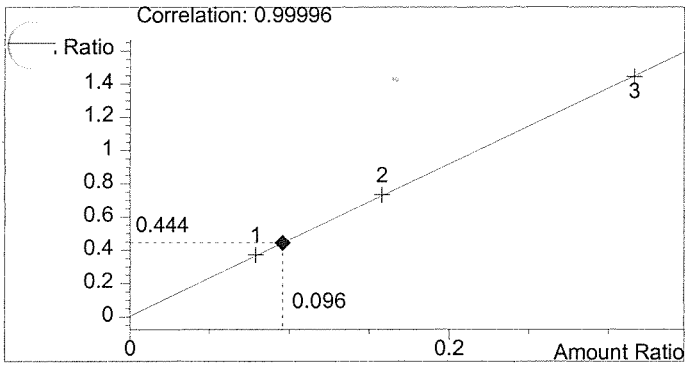
Q.A. Sol. 03006  
 Estuardo J. Miranda

vial # 15

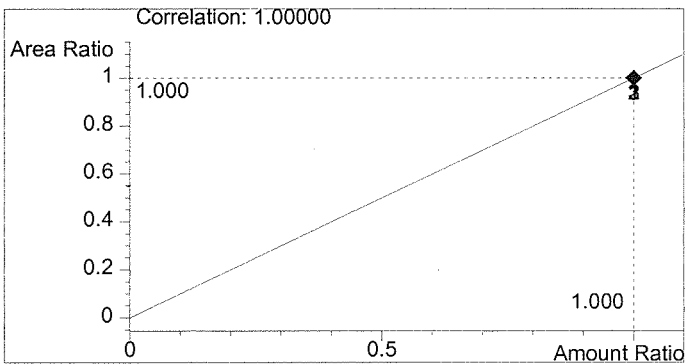


#	Compound	Area	RT
1	Ethanol	1526	1.043
2	n-Propanol	3438	1.702

Totals:



Ethanol 0.096 g/100ml



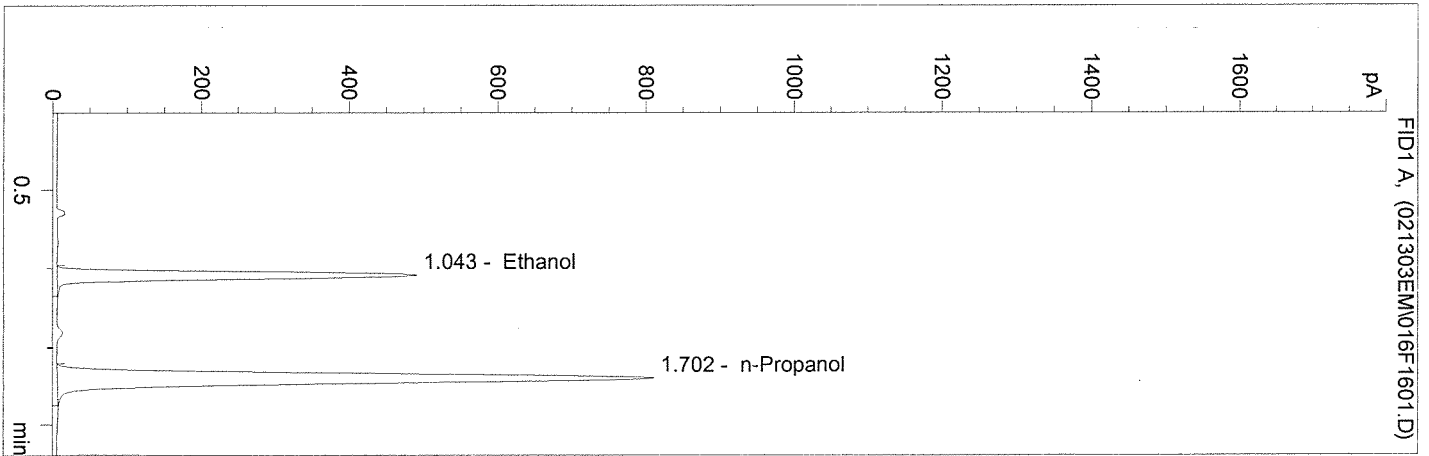
n-Propanol 1.000 g/100ml

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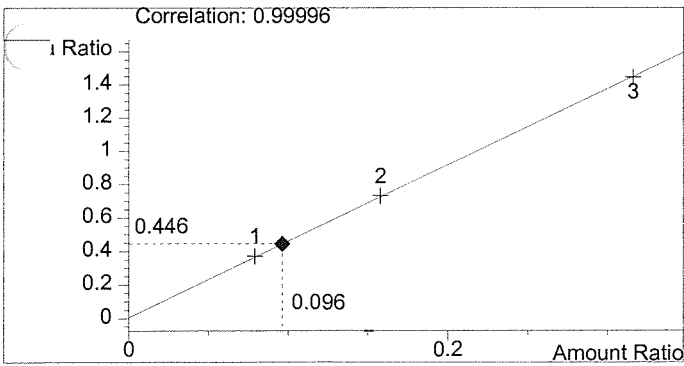
Q.A. Sol. 03006  
 Estuardo J. Miranda

vial # 16

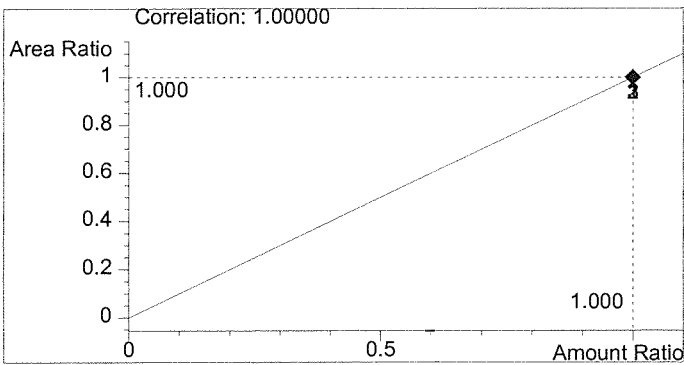


#	Compound	Area	RT
1	Ethanol	1528	1.043
2	n-Propanol	3428	1.702

Totals:



Ethanol 0.096 g/100ml



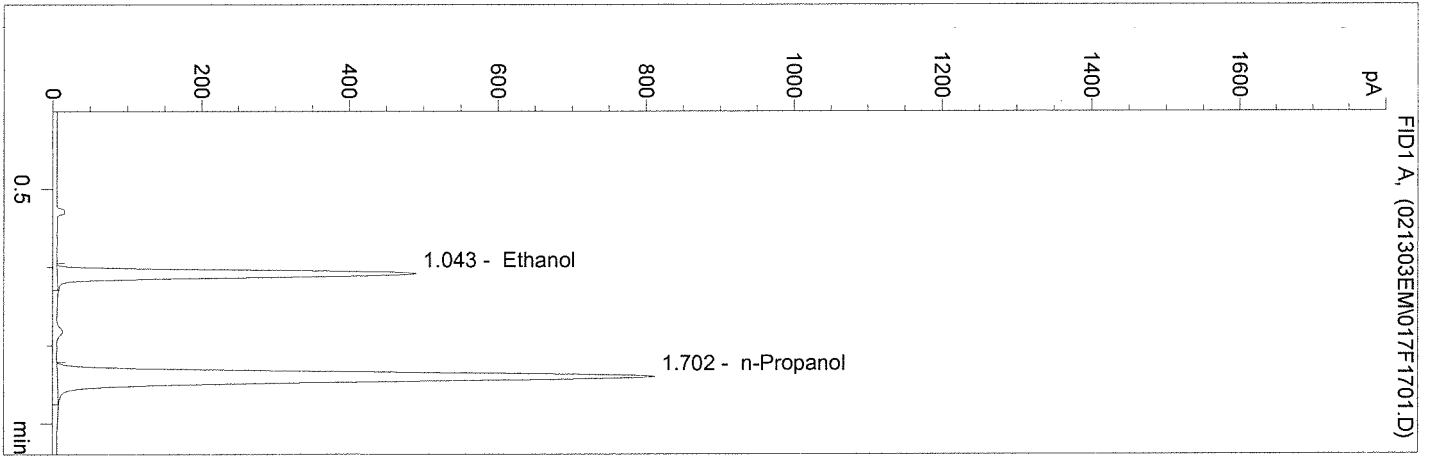
n-Propanol 1.000 g/100ml

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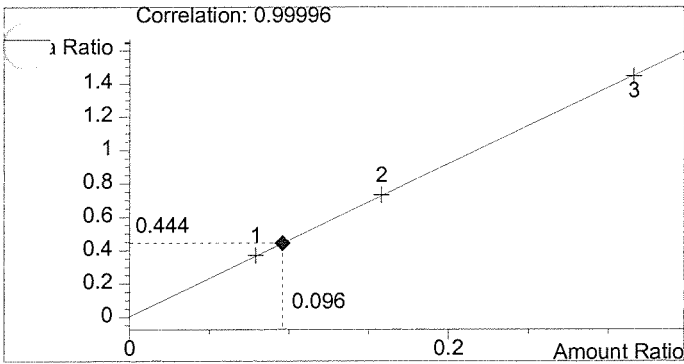
Q.A. Sol. 03006  
 Estuardo J. Miranda

vial # 17

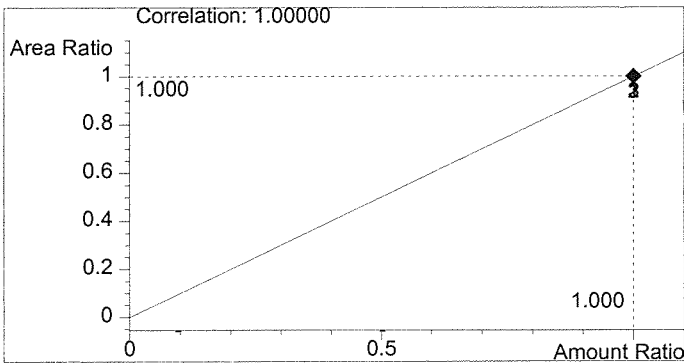


#	Compound	Area	RT
1	Ethanol	1524	1.043
2	n-Propanol	3432	1.702

Totals:



Ethanol 0.096 g/100ml



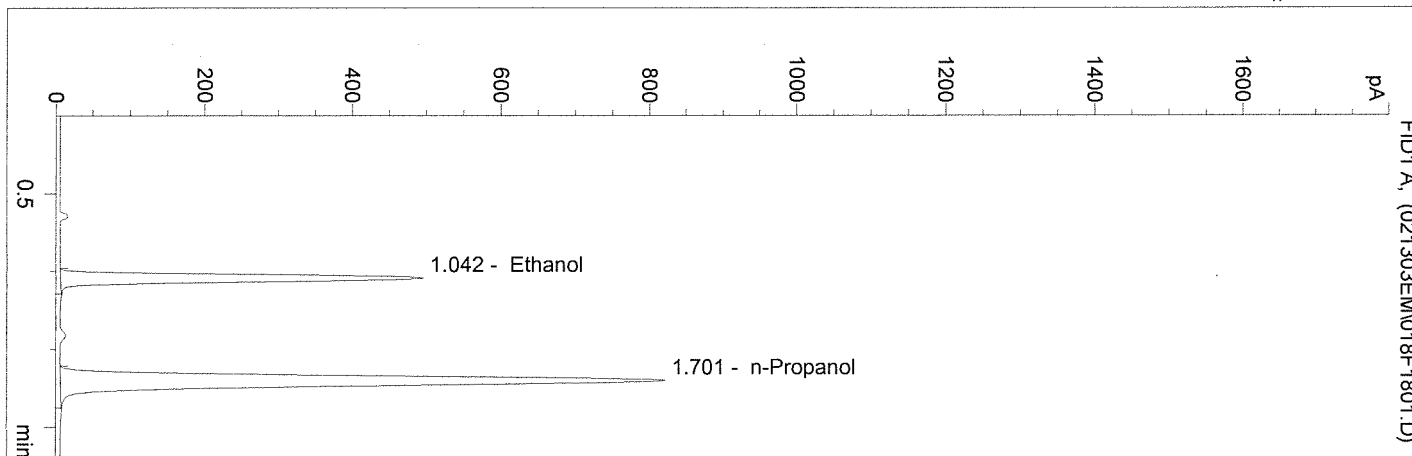
n-Propanol 1.000 g/100ml

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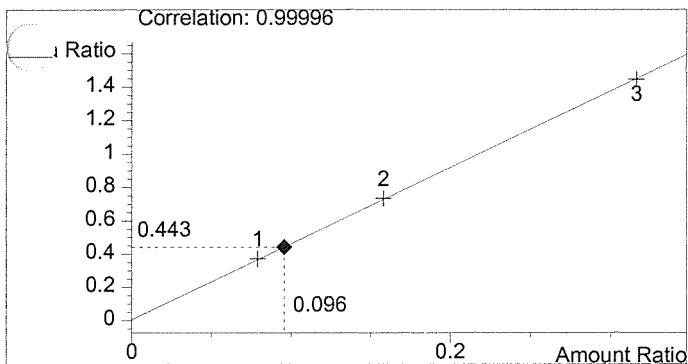
Q.A. Sol. 03006  
 Estuardo J. Miranda

vial # 18

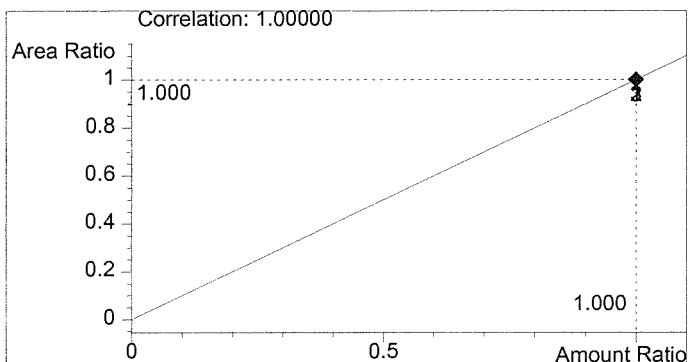


#	Compound	Area	RT
1	Ethanol	1533	1.042
2	n-Propanol	3465	1.701

Totals:



Ethanol 0.096 g/100ml



n-Propanol 1.000 g/100ml

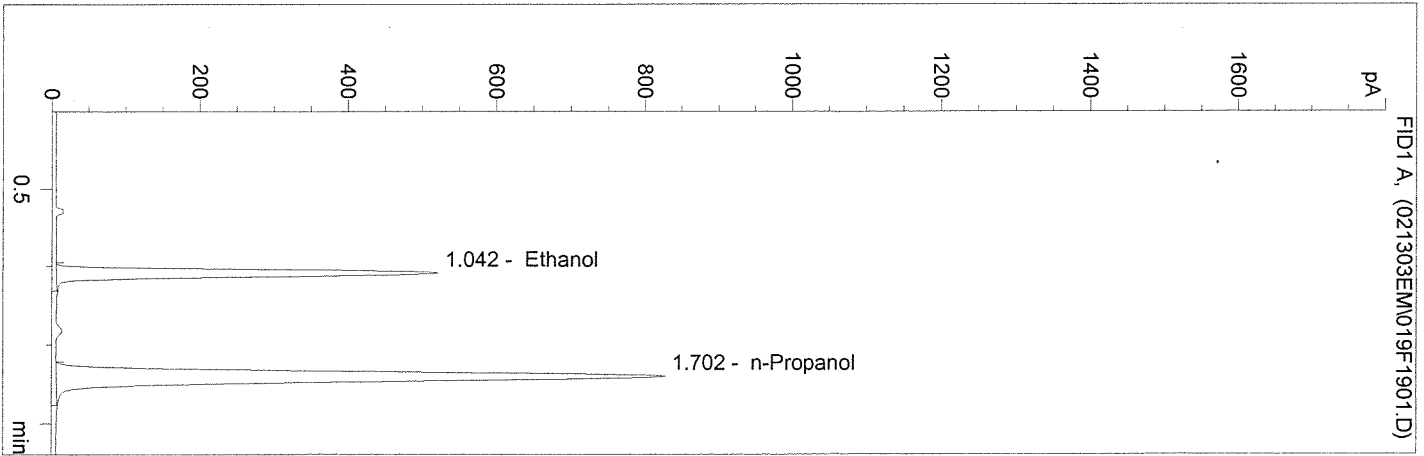


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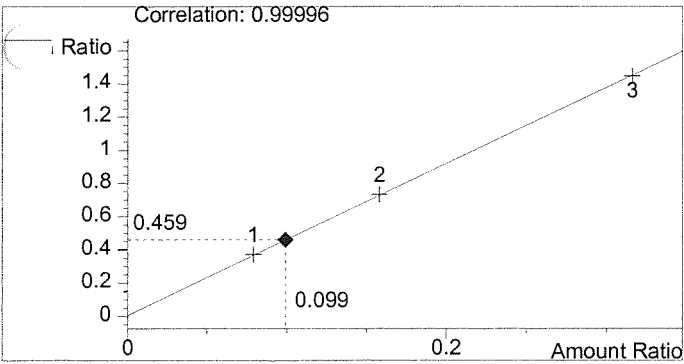
0.100 Control  
 Estuardo J. Miranda

vial # 19

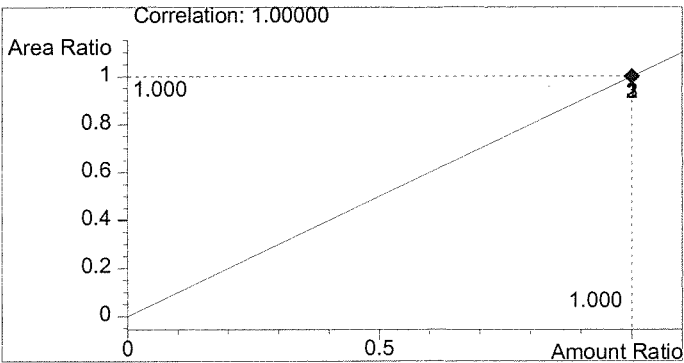


#	Compound	Area	RT
1	Ethanol	1600	1.042
2	n-Propanol	3486	1.702

Totals:



Ethanol 0.099 g/100ml



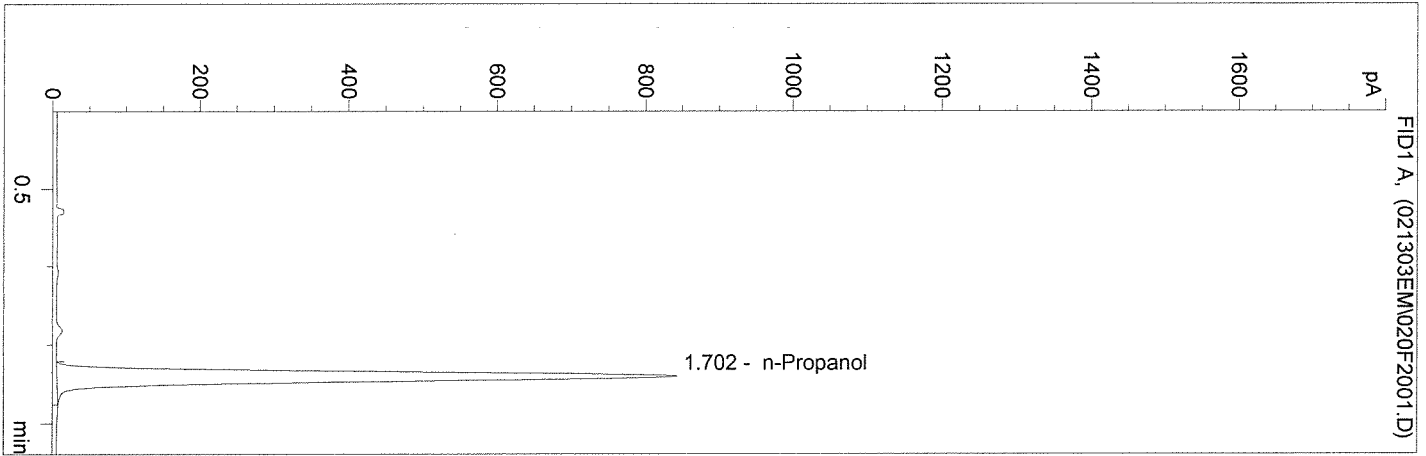
n-Propanol 1.000 g/100ml

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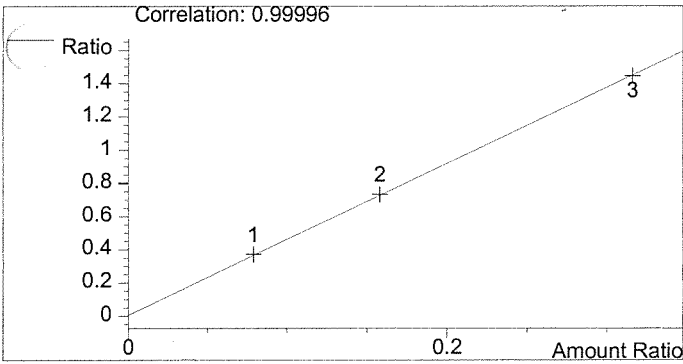
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 Estuardo J. Miranda

vial # 20

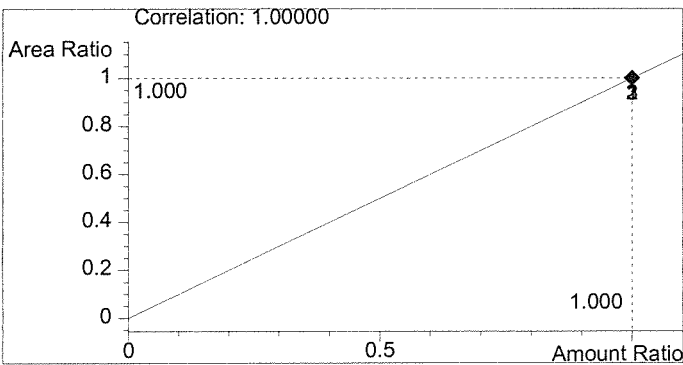


#	Compound	Area	RT
1	Ethanol	0	0.000
2	n-Propanol	3545	1.702

Totals:



Ethanol 0.000 g/100ml



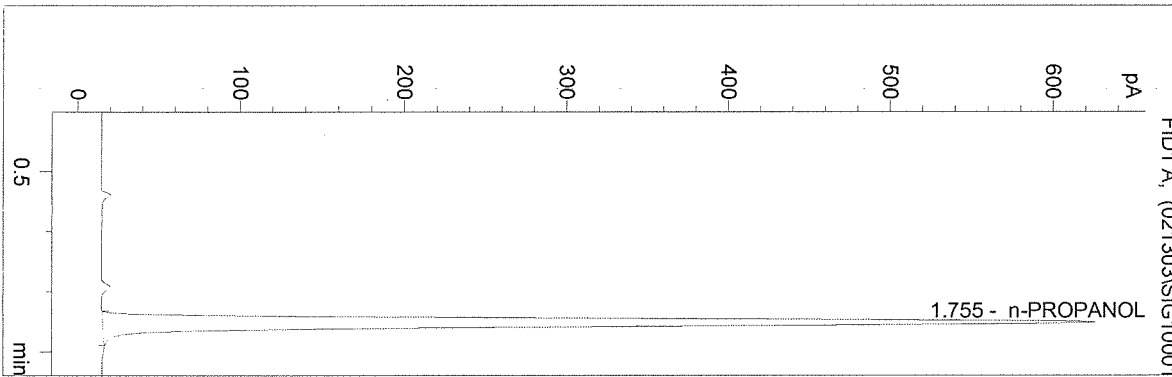
n-Propanol 1.000 g/100ml

WASHINGTON STATE TOXICOLOGY LABORATORY

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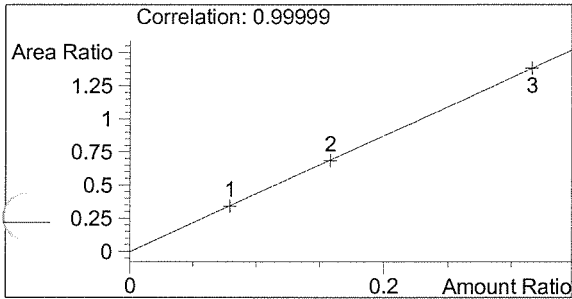
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 RUTH LUTHI

vial # 1

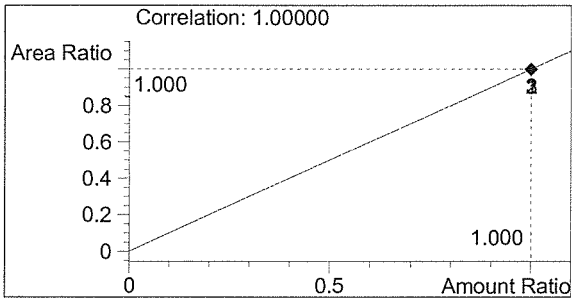


#	Compound	Area	RT
1	ETHANOL	0	0.000
2	n-PROPANOL	2784	1.755

Totals:



ETHANOL 0.000 g/100mL



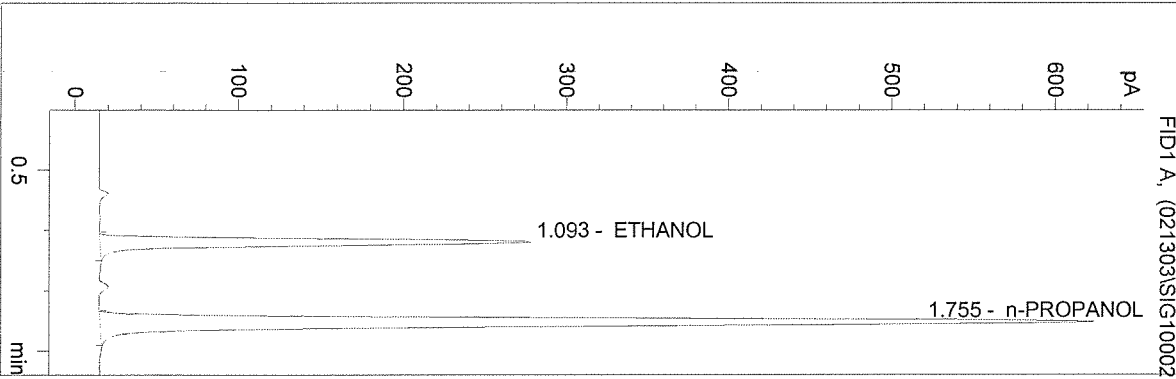
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

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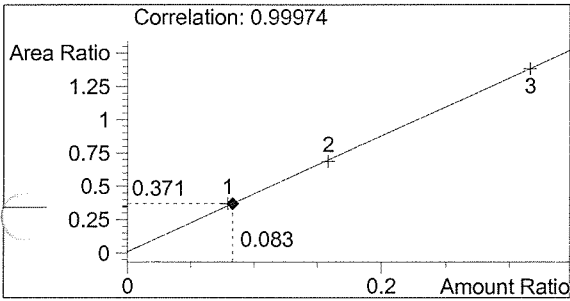
0.079 CALIBRATOR  
 RUTH LUTHI

vial # 2

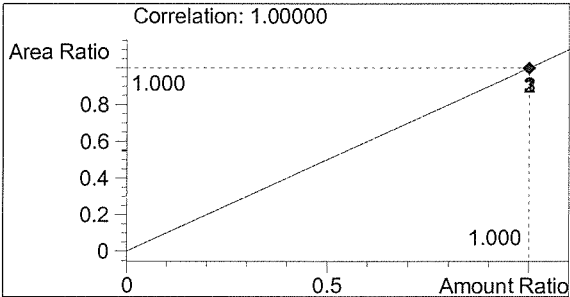


#	Compound	Area	RT
1	ETHANOL	1023	1.093
2	n-PROPANOL	2756	1.755

Totals:



ETHANOL 0.083 g/100mL



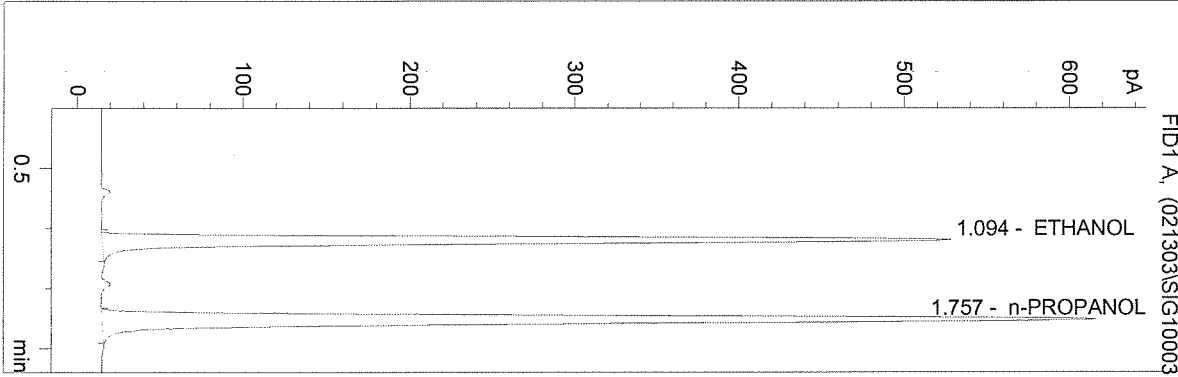
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

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 2/13/03 7:46:00 AM  
 Instrument 3  
 DB-ALC1

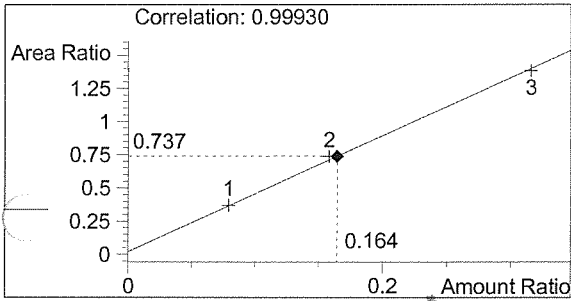
0.158 CALIBRATOR  
 RUTH LUTHI

vial # 3

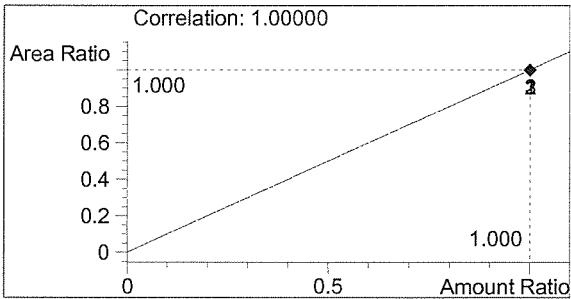


#	Compound	Area	RT
1	ETHANOL	2012	1.094
2	n-PROPANOL	2730	1.757

Totals:



ETHANOL 0.164 g/100mL



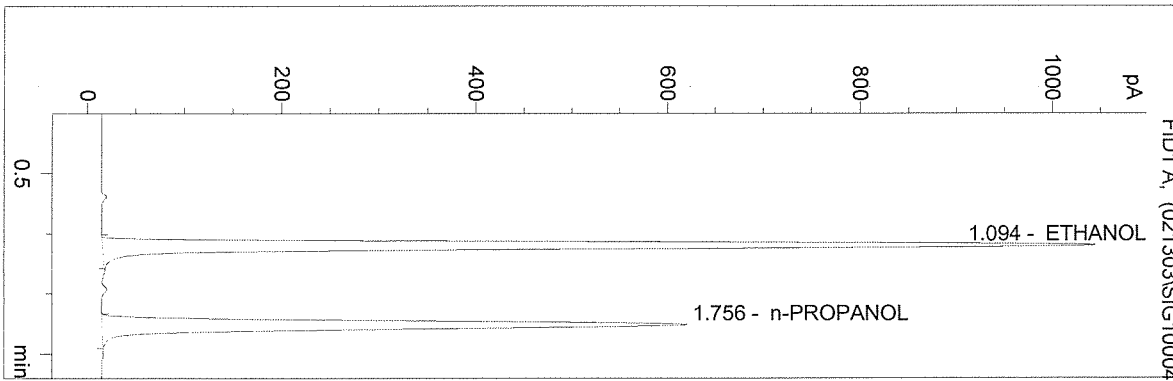
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO3.M  
 2/13/03 7:49:22 AM  
 Instrument 3  
 DB-ALC1

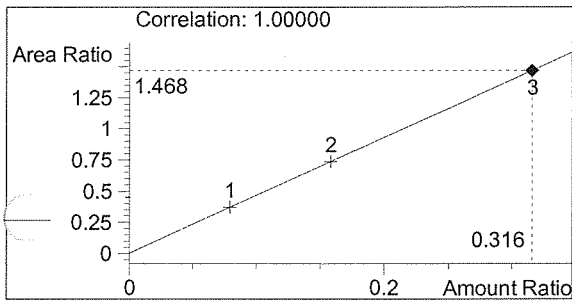
0.316 CALIBRATOR  
 RUTH LUTHI

vial # 4

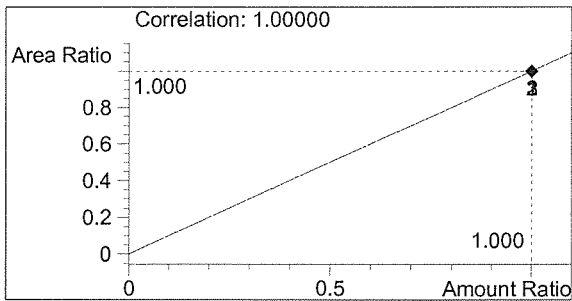


#	Compound	Area	RT
1	ETHANOL	4041	1.094
2	n-PROPANOL	2752	1.756

Totals:



ETHANOL 0.316 g/100mL



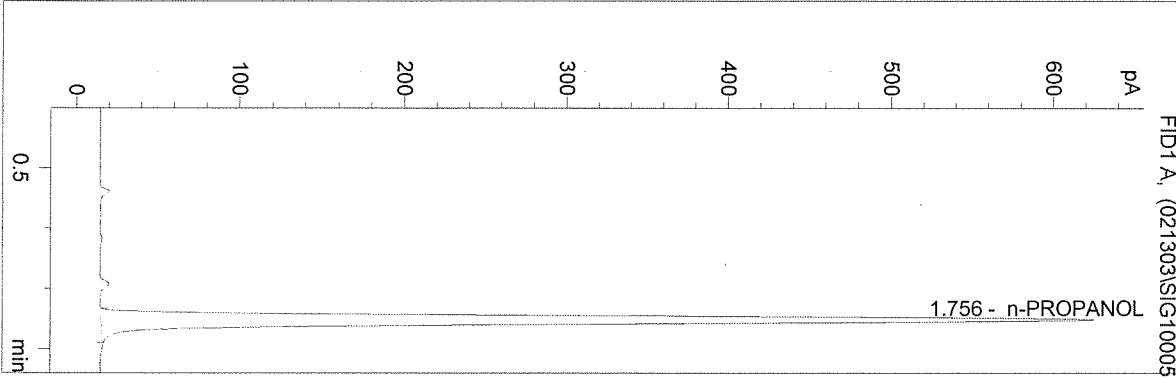
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO3.M  
 2/13/03 7:52:49 AM  
 Instrument 3  
 DB-ALC1

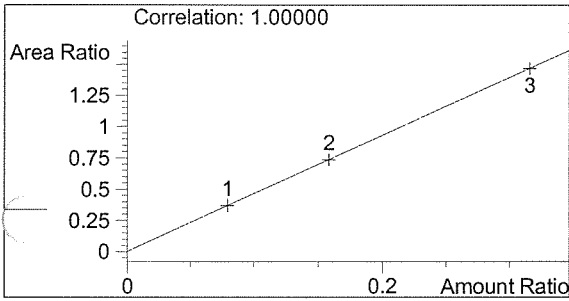
BLANK  
 RUTH LUTHI

vial # 5

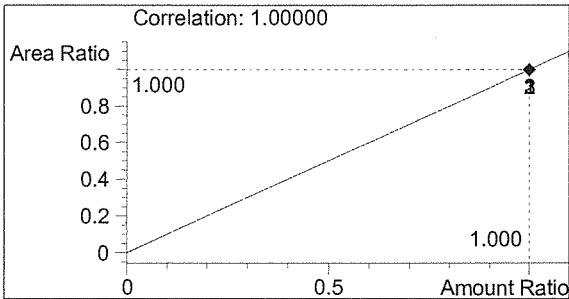


#	Compound	Area	RT
1	ETHANOL	0	0.000
2	n-PROPANOL	2766	1.756

Totals:



ETHANOL 0.000 g/100mL



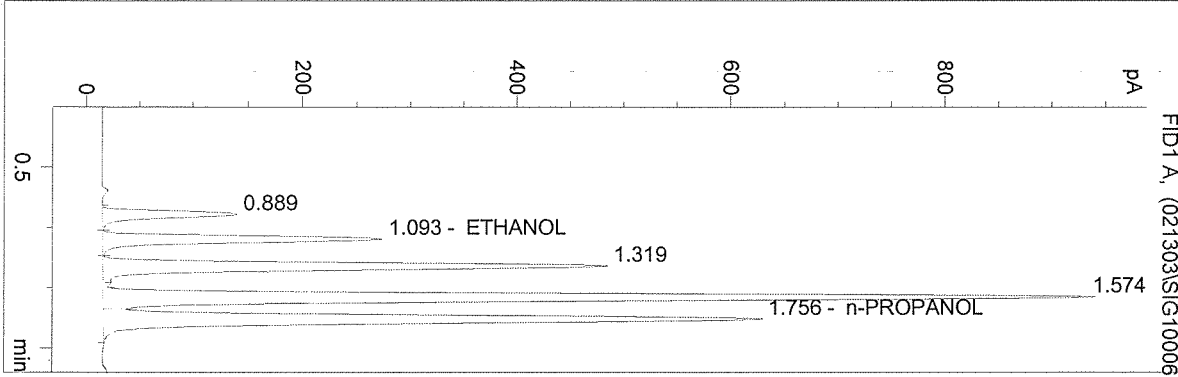
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO3.M  
 2/13/03 7:56:12 AM  
 Instrument 3  
 DB-ALC1

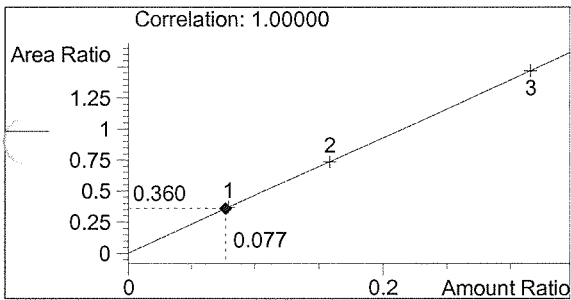
0.079MIX  
 RUTH LUTHI

vial # 6

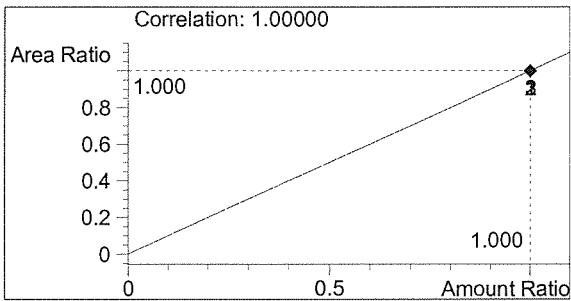


#	Compound	Area	RT
1		498	0.889
2	ETHANOL	1008	1.093
3		1914	1.319
4		3801	1.574
5	n-PROPANOL	2799	1.756

Totals:



ETHANOL 0.077 g/100mL



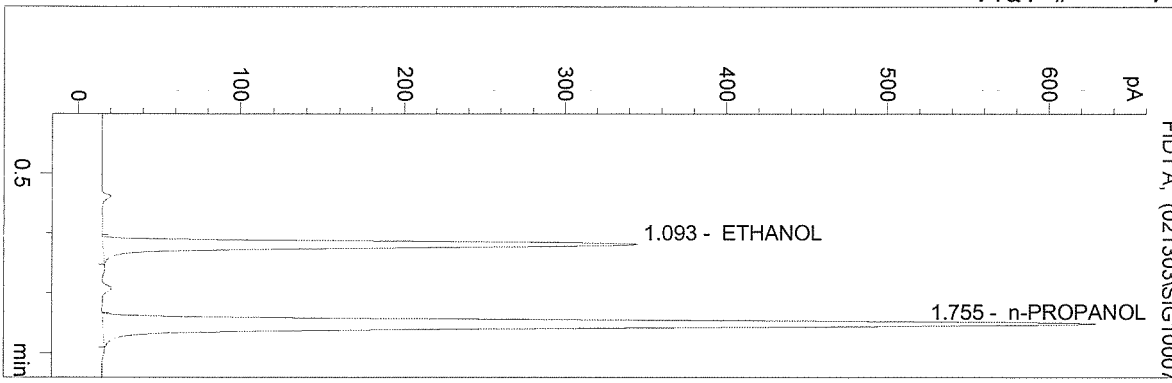
n-PROPANOL 1.000 g/100mL



C:\HPCHEM\1\METHODS\BLDALCO3.M  
 2/13/03 7:59:35 AM  
 Instrument 3  
 DB-ALC1

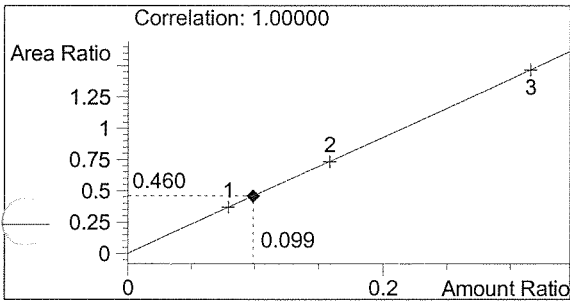
0.100 CTRL  
 RUTH LUTHI

vial # 7

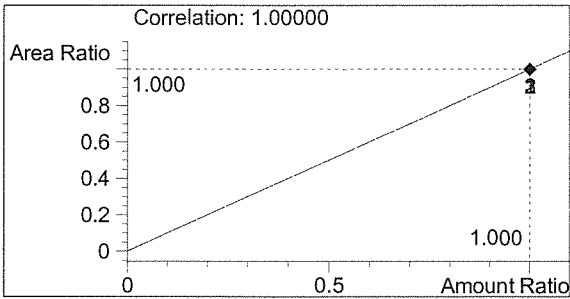


#	Compound	Area	RT
1	ETHANOL	1273	1.093
2	n-PROPANOL	2764	1.755

Totals:



ETHANOL 0.099 g/100mL



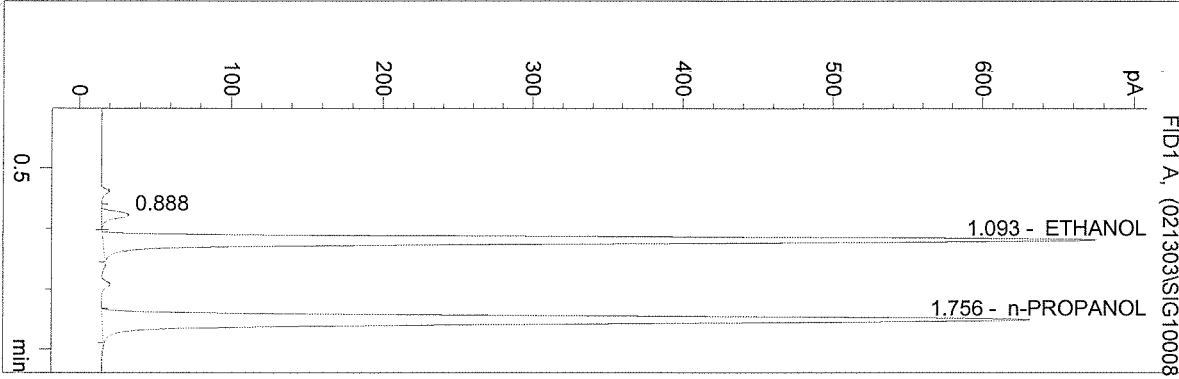
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO3.M  
 2/13/03 8:02:58 AM  
 Instrument 3  
 DB-ALC1

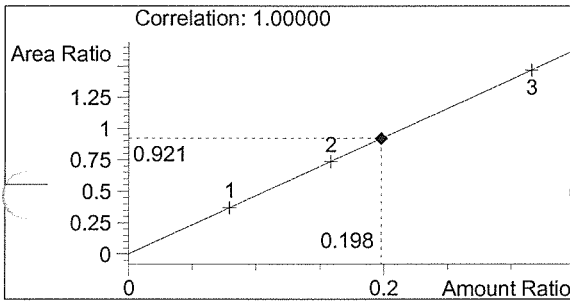
0.200 CTRL  
 RUTH LUTHI

vial # 8

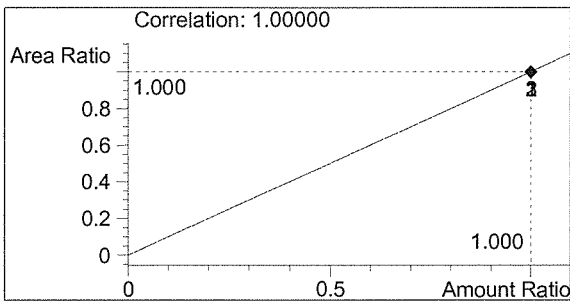


#	Compound	Area	RT
1		71	0.888
2	ETHANOL	2565	1.093
3	n-PROPANOL	2786	1.756

Totals:



ETHANOL 0.198 g/100mL

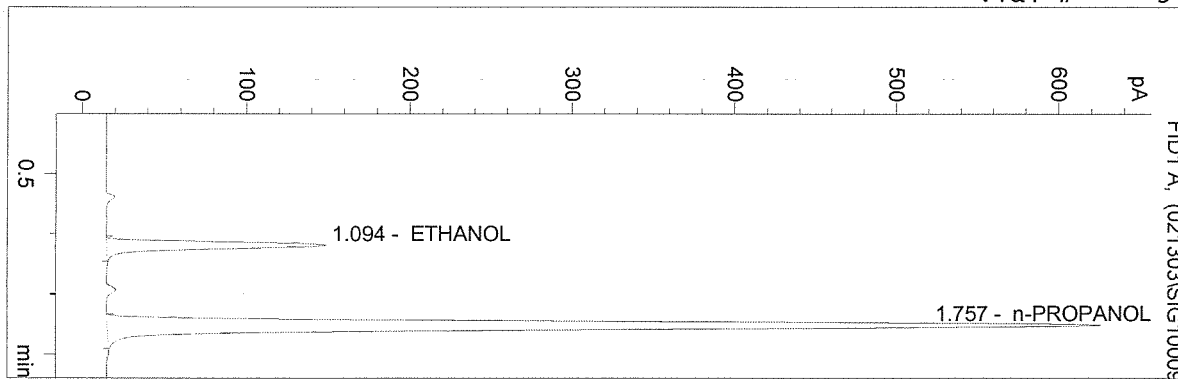


n-PROPANOL 1.000 g/100mL

C:\HPCHEM\1\METHODS\BLDALCO3.M  
 2/13/03 8:06:21 AM  
 Instrument 3  
 DB-ALC1

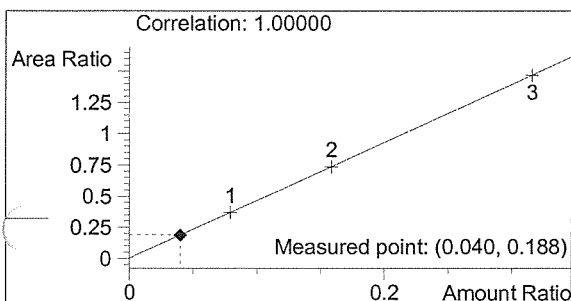
0.040CAP  
 RUTH LUTHI

vial # 9

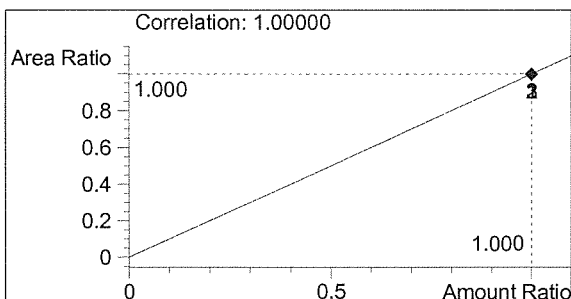


#	Compound	Area	RT
1	ETHANOL	522	1.094
2	n-PROPANOL	2772	1.757

Totals:



ETHANOL 0.040 g/100mL



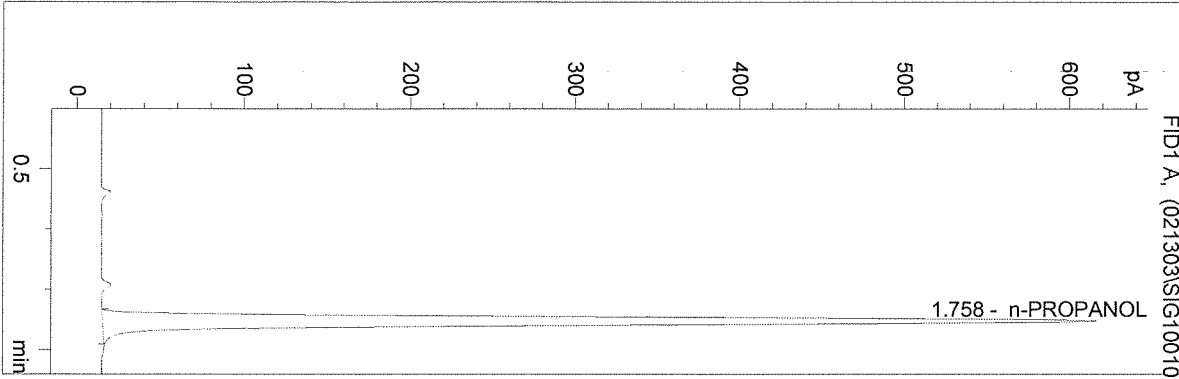
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO3.M  
 2/13/03 8:09:44 AM  
 Instrument 3  
 DB-ALC1

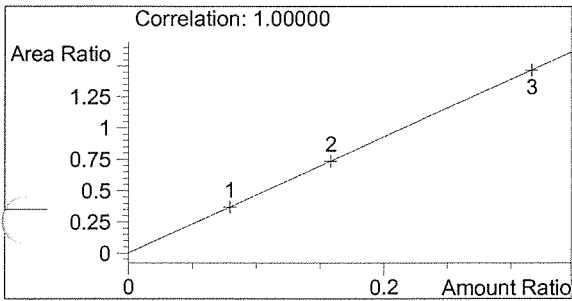
BLANK  
 RUTH LUTHI

vial # 10

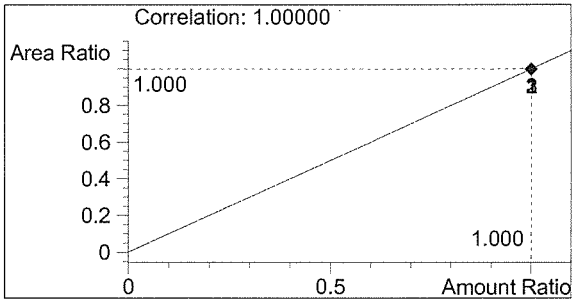


#	Compound	Area	RT
1	ETHANOL	0	0.000
2	n-PROPANOL	2734	1.758

Totals:



ETHANOL 0.000 g/100mL



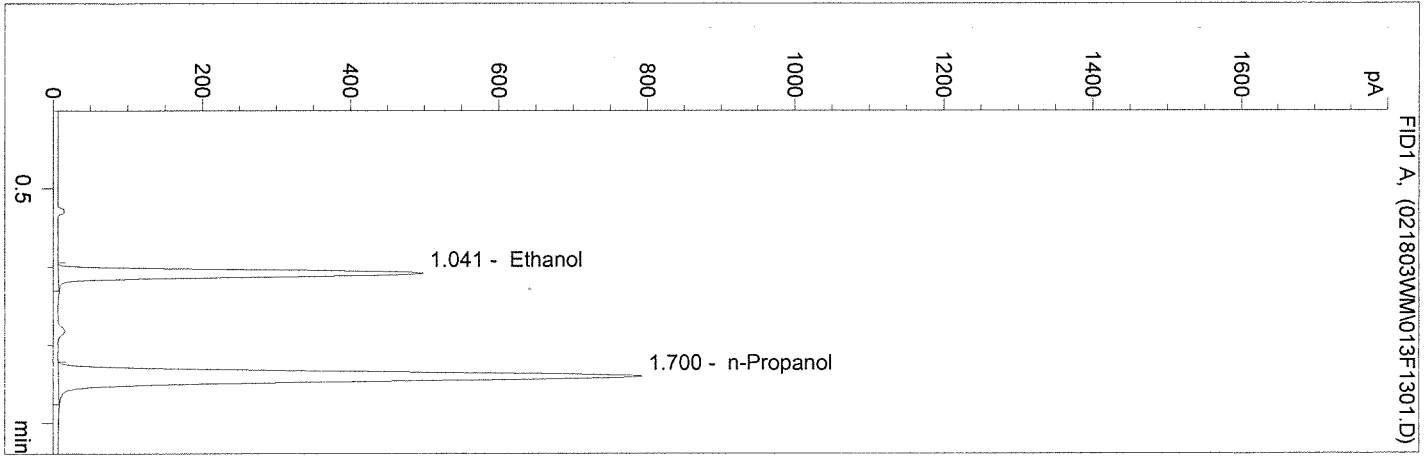
n-PROPANOL 1.000 g/100mL

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO.M  
 2/18/03 12:47:32 PM  
 Instrument 1  
 ALC1

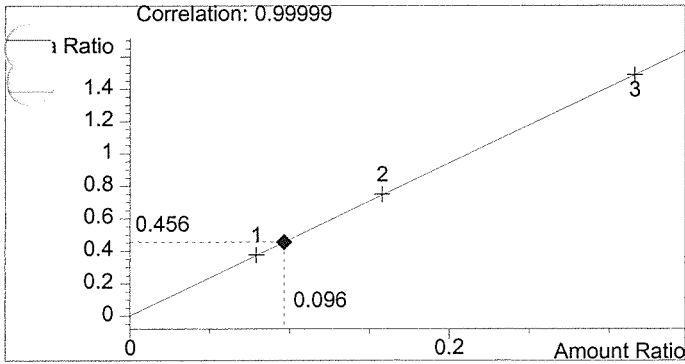
QA 03006  
 WP MARSHALL

vial # 13

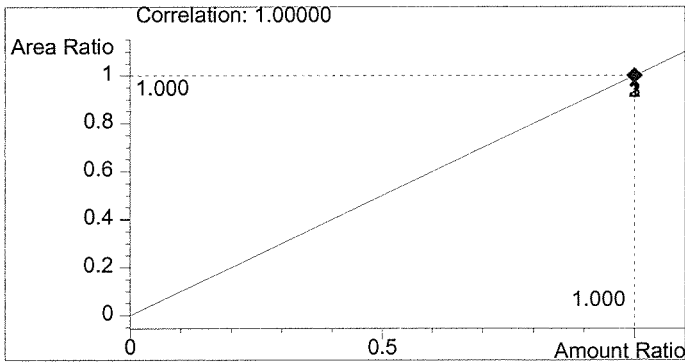


#	Compound	Area	RT
1	Ethanol	1526	1.041
2	n-Propanol	3343	1.700

Totals:



Ethanol 0.096 g/100ml



n-Propanol 1.000 g/100ml

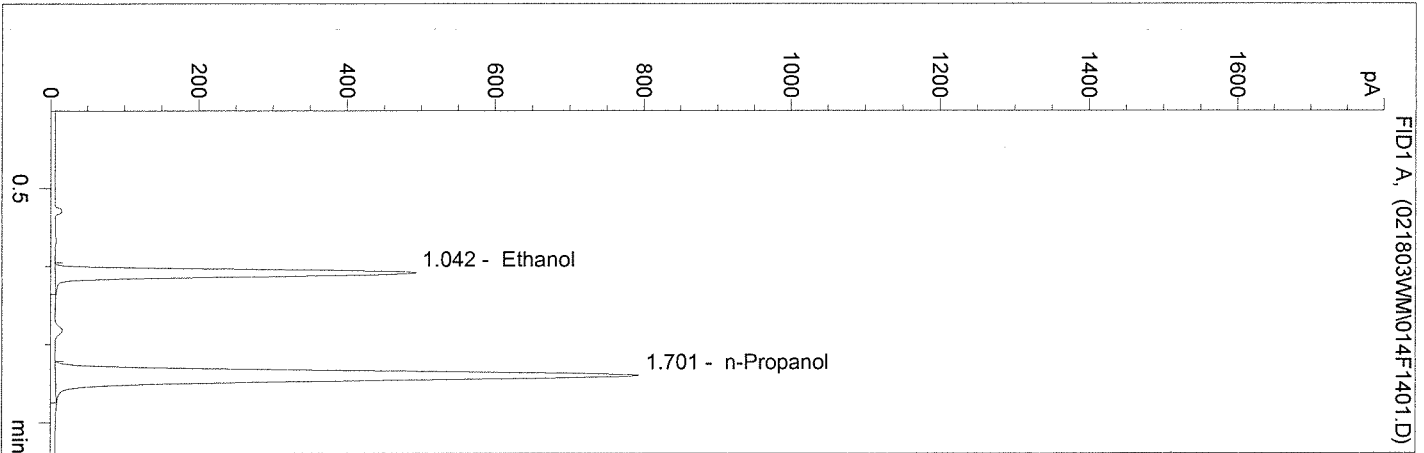
STD5  
 031042

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO.M  
 2/18/03 12:50:34 PM  
 Instrument 1  
 -ALC1

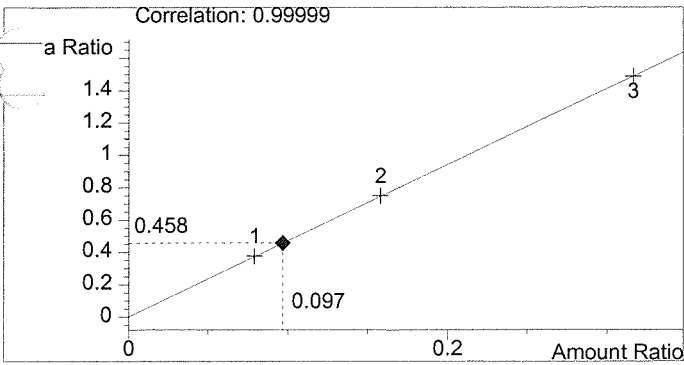
QA 03006  
 WP MARSHALL

vial # 14

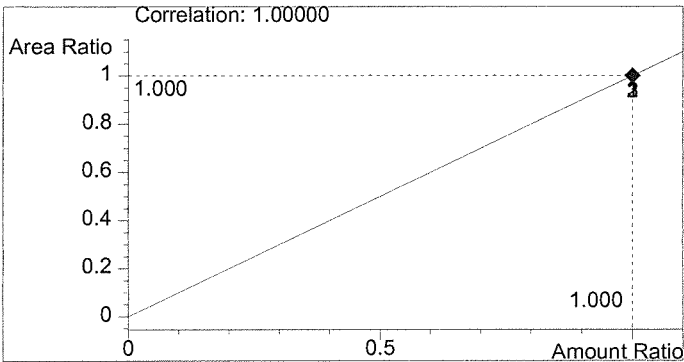


#	Compound	Area	RT
1	Ethanol	1537	1.042
2	n-Propanol	3360	1.701

Totals:



Ethanol 0.097 g/100ml



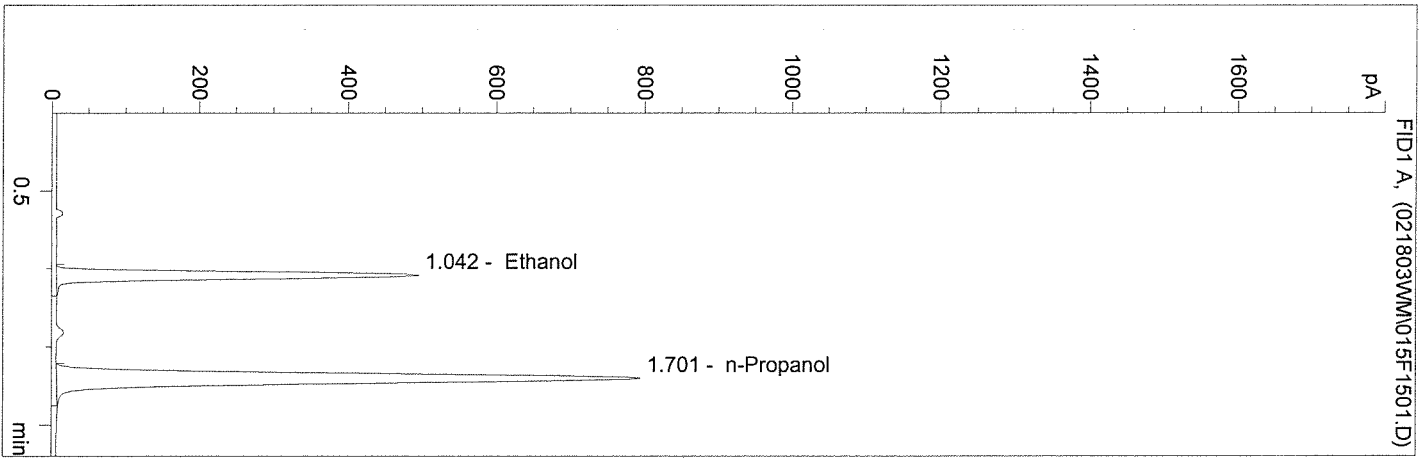
n-Propanol 1.000 g/100ml

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO.M  
 2/18/03 12:53:36 PM  
 Instrument 1  
 -ALC1

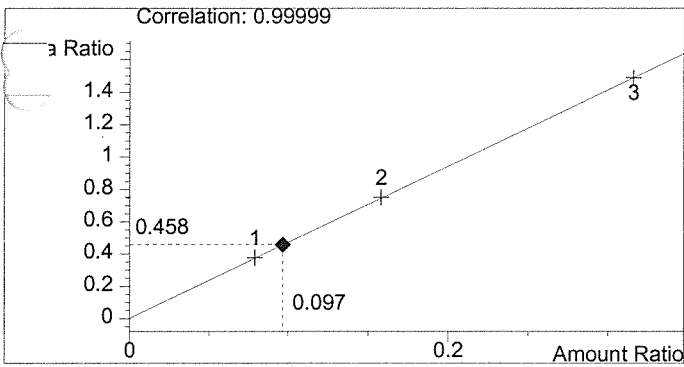
QA 03006  
 WP MARSHALL

vial # 15

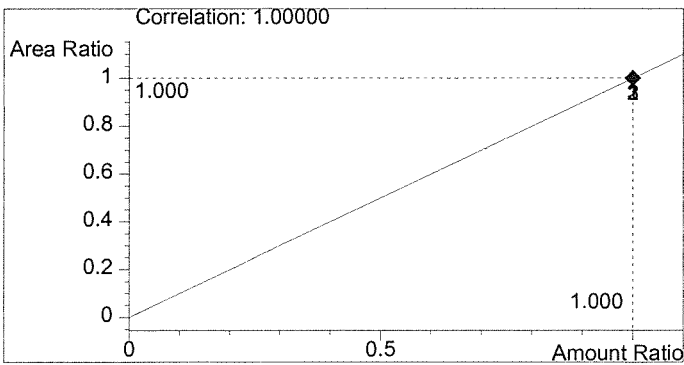


#	Compound	Area	RT
1	Ethanol	1538	1.042
2	n-Propanol	3358	1.701

Totals:



Ethanol 0.097 g/100ml



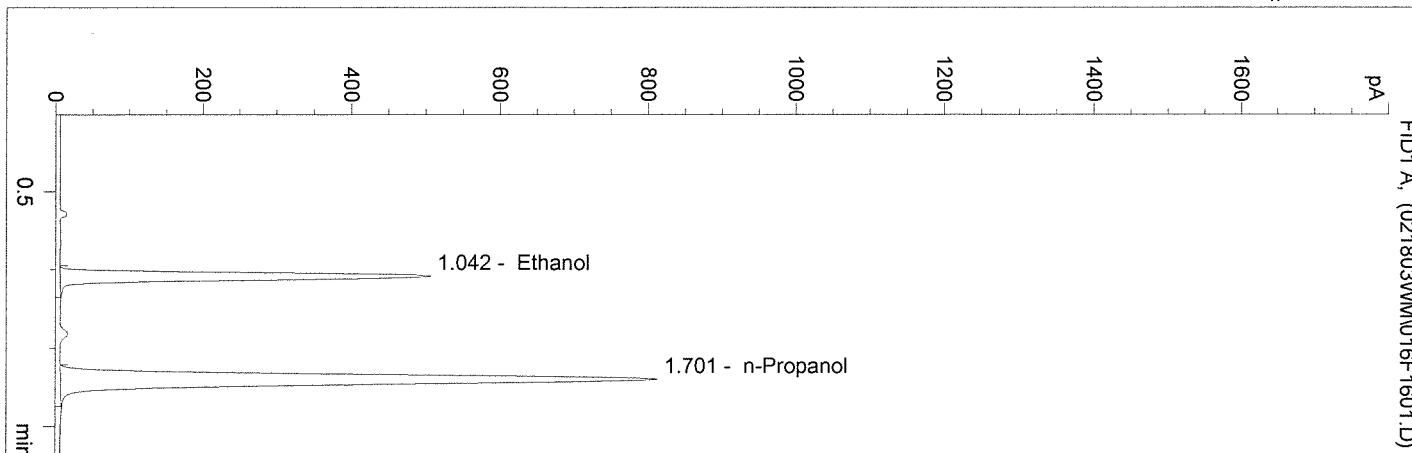
n-Propanol 1.000 g/100ml

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO.M  
 2/18/03 12:56:37 PM  
 Instrument 1  
 -ALC1

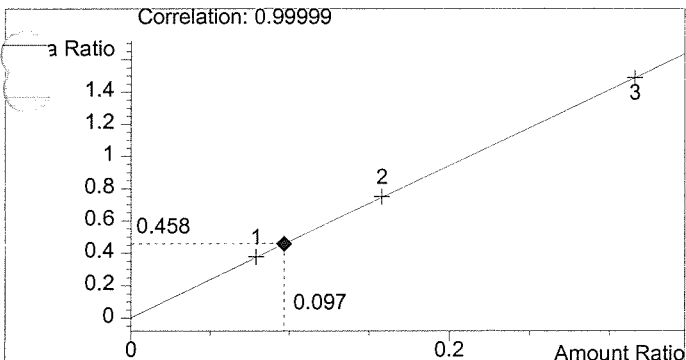
QA 03006  
 WP MARSHALL

vial # 16

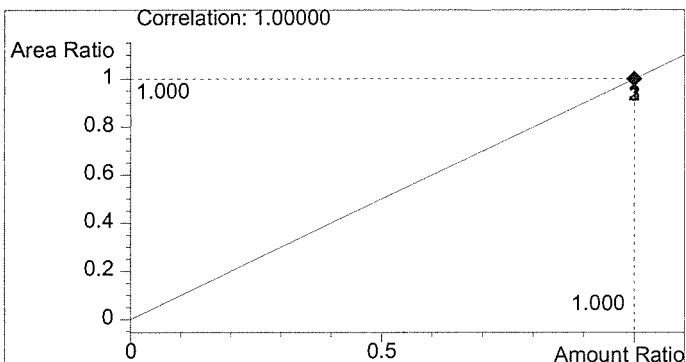


#	Compound	Area	RT
1	Ethanol	1573	1.042
2	n-Propanol	3437	1.701

Totals:



Ethanol 0.097 g/100ml



n-Propanol 1.000 g/100ml

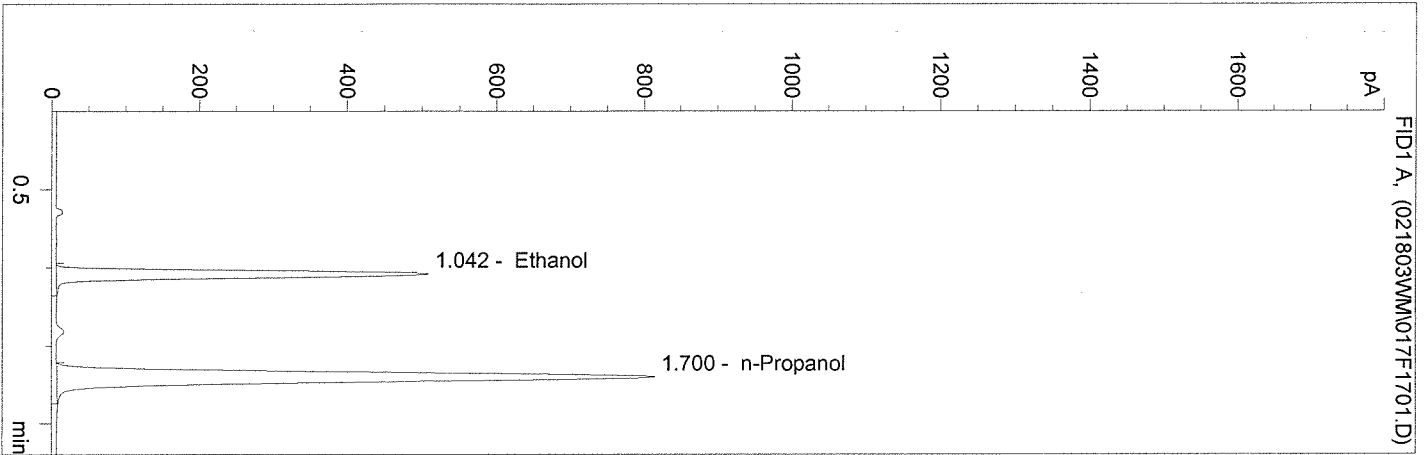


WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO.M  
 2/18/03 1:00:00 PM  
 Instrument 1  
 -ALC1

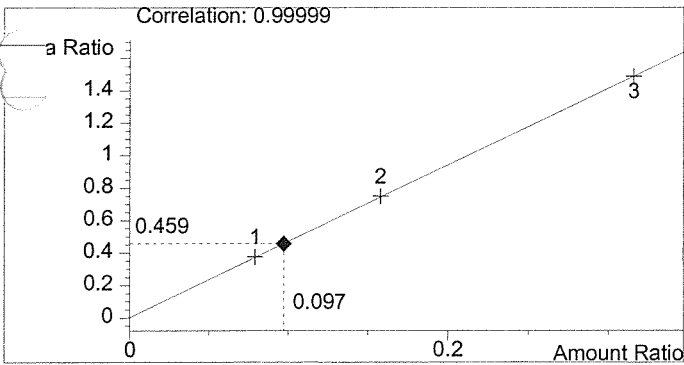
QA 03006  
 WP MARSHALL

vial # 17

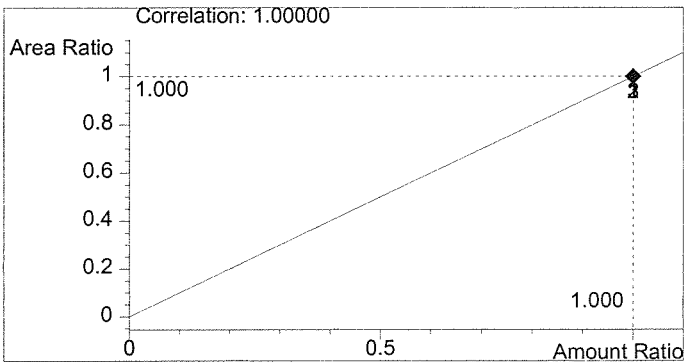


#	Compound	Area	RT
1	Ethanol	1576	1.042
2	n-Propanol	3431	1.700

Totals:



Ethanol 0.097 g/100ml



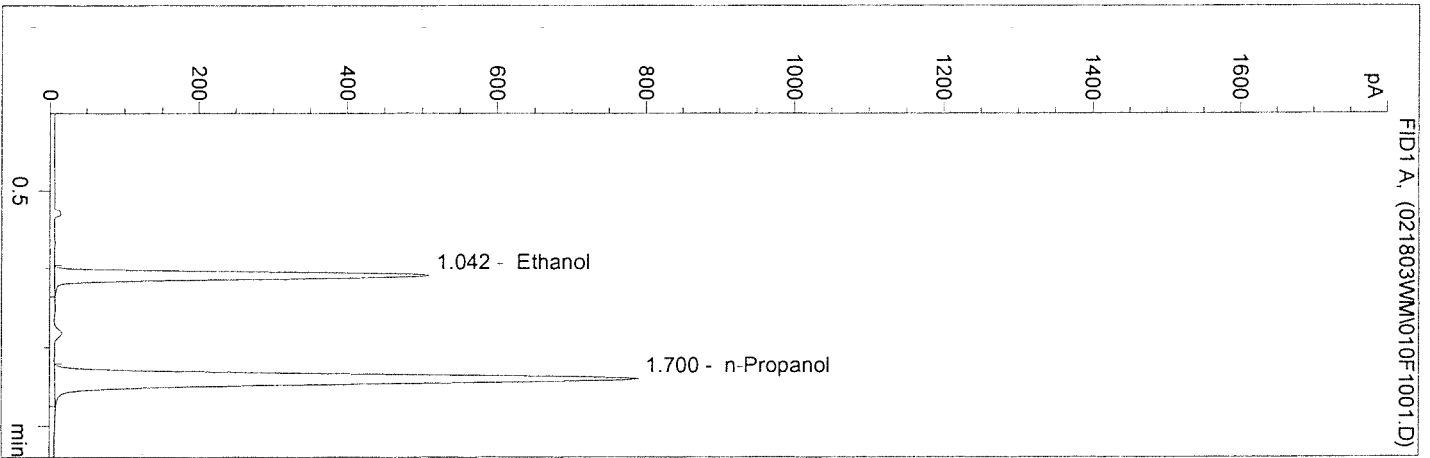
n-Propanol 1.000 g/100ml

WASHINGTON STATE TOXICOLOGY LABORATORY

C:\HPCHEM\1\METHODS\BLDALCO.M  
 2/18/03 12:38:04 PM  
 Instrument 1  
 ALC1

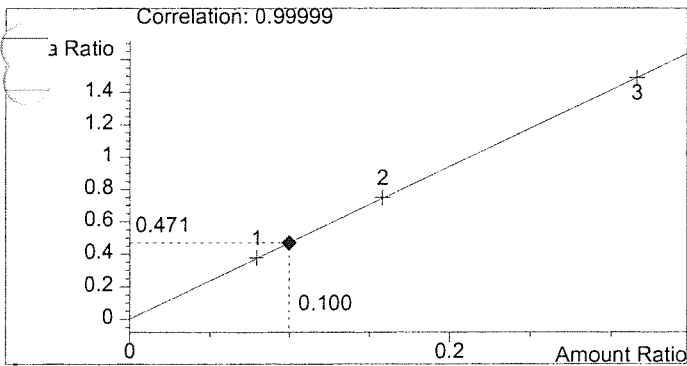
CONTROL 0.10 WM  
 WP MARSHALL

vial # 10

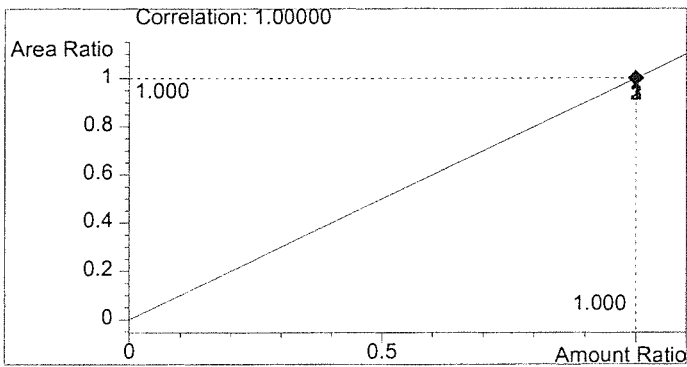


#	Compound	Area	RT
1	Ethanol	1579	1.042
2	n-Propanol	3351	1.700

Totals:



Ethanol 0.100 g/100ml



n-Propanol 1.000 g/100ml