NOTEBOOK NO. _123_

ISSUED TO _Yanan Didsatha-amnarj_

ON _August 4th_ 20_08_

DEPARTMENT _____

RETURNED _Aug 14_ 20_08_

Table of Contents

	Page

14/7/08
Procedures

I.   Prepare a new d4-furan stock solution
1. Place a 40 ml vial on the analytical balance with four decimal points and tare balance to 0.0000 .
2. Pipette 20 ml of water into the vial
3. Weigh water (W1:19.91915)
4. Take d4-furan out from the fridge and let it sit at room temperature
5. Pipette 2 drops into the vial of water
6. Weigh water + d4-furan (W2: 19.9317)
7. Calculation W2-W1/20ml = (19.9317-19.91915)/ 20ml = 0.64 mg/ml

II.   Prepare 1.6 µg/ml of d4-furan working solution
1. Pipette 20 ml of water into 40 ml vial
2. Use micropipette to transfer 50 µl of 0.64 mg/ml of d4-furan into the water vial
3. The concentration is (0.64 (50)/1000)*20.05ml = 1.6 µg/ml

III.   Prepare 6.3 µg/ml working furan solution from 1.27 mg/ml stock furan solution
1. Pipette 20 ml of water into a 40 ml vial
2. By using micropipette, take 100 ul of 1.27 mg/ml stock furan and place into the vial
3. The concentration is (1.27 *100/1000)/ 20.1=6.3 µg/ml

IV.   Prepare 9.45 µg/ml working furan solution from 1.27 mg/ml stock furan solution
1. Pipette 20 ml of water into 40 ml vial
2. By using micropipette, take 150 ul of 1.27 mg/ml stock furan and place into the vial
3. The concentration is (1.27*150/1000)/20.15 =9.45 µg/ml

V.   Repeat measurement of Jewel Medium June Pea, Can C, same lot (AYB6217)
1. The batch of pea that was prepared on 10/7/08 was put in a water batch to defrost
2. 10g of sample was transfer into a 20 ml vial
3. Incubate in ice for 5 mins
4. Prepare 0.63 µg/ml by dilute 1/10 of furan 6.3 µg/ml: take 1000 µl of 6.3µg/ml into 9 ml of water (Prepare in 20 ml vial)

There for 4 standard additions are:

X0: 10 g of sample + 25 µl of IS (1.6 µg/ml of d4-furan)
X1: 10 g of sample + 25 µl of IS + 25 ul 0.63 µg/ml of spiked furan
X2: 10 g of sample + 25 µl IS + 50 µl spiked 0.63 µg/ml furan
X3: 10 g of sample + 25 IS + 100µl spiked 0.63 µg/ml furan

- Repeat analysis of pea solid of can C lot A 3 times (data fine: peac05-08,,2peax0-x3,3peax0-x3)

Witnessed & Understood by me,	Date	Invented by:		Date
yavan hing	7/14/08	Recorded by:		

VI. Prepare and measure furan in applesauce baby food
1. Prepare a batch of baby applesauce by putting 50g of applesauce into 150 ml water. (Dil factor = 4)
2. Transfer 10 g of applesauce into 20 ml vial
3. Incubate in an icebath for 5 mins
4. Fortified d4-furan and 0.63 µg/ml furan

X0: 10 g of sample + 25 µl of IS (1.6 µg/ml of d4-furan)
X1: 10 g of sample + 25 µl of IS + 25 ul 0.63 µg/ml of spiked furan
X2: 10 g of sample + 25 µl IS + 50 µl spiked 0.63 µg/ml furan
X3: 10 g of sample + 25 IS + 100µl spiked 0.63 µg/ml furan

V. Set up a sequence on Chemstation and the combi/pal autosampler

Results

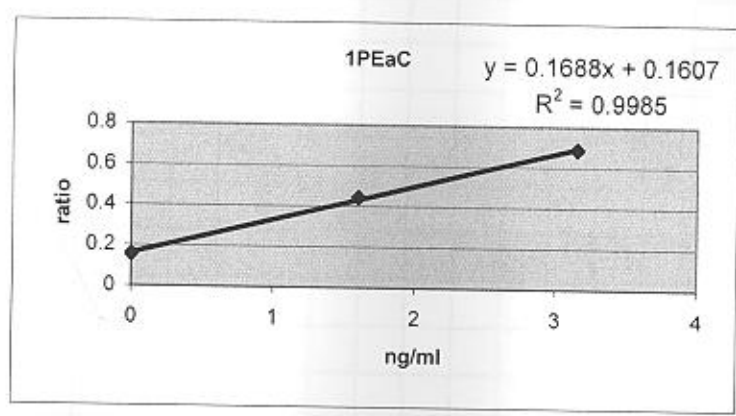| Witnessed & Understood by me,	Date 7/14/08	Invented by:	Date
		Recorded by:	

TITLE _____

Project No. _____

From Page No. _____

Book No. _____

14/7/08
AYB6217 2nd can (canC)
d4-furan 1.6 ug/ml
furan   0.63ug/ml 0,25,50,100ul

level	File name	conc spike	68	72	ratio	39	37	42	44
0	PeaC05	0	164301	1E+06	0.154908437	161867	-	1358731	280020
0.5x	PeaC06	1.6	386602	873647	0.442515112	552532	-	1133824	227802
1x	PeaC07	3.15	594529	866122	0.686426393	816214	96661	1140879	226716
2x	PeaC08	6.3	1E+06	601695	1.795100508	1E+06	179788	740474	156868

1PEaC

$y = 0.1688x + 0.1607$
$R^2 = 0.9985$

Amount
3.8 ng/ml

(Graph: ratio vs ng/ml, points plotted from 0 to ~3.2)

level	File name	conc spike	68	72	ratio	39	37	42	44
0	2Peax0	0	123165	1E+06	0.122879673	121335	-	1275973	262393
0.5x	2Peax1	1.6	401326	919237	0.436585995	567366	-	1194137	242887
1x	2Peax2	3.15	548177	798450	0.686551443	755906	93953	1050455	209149
2x	2Peax3	6.3	905860	839732	1.078748934	1E+06	151402	1119825	223583

2PeaC

$y = 0.1495x + 0.1683$
$R^2 = 0.9875$

Amount
4.5 ng/ml

(Graph: ratio vs ng/ml, points plotted from 0 to ~6.3)

Witnessed & Understood by me,   Date 7/14/08

Invented by:

Recorded by:

To Page No. _____

Date

Project No. _____
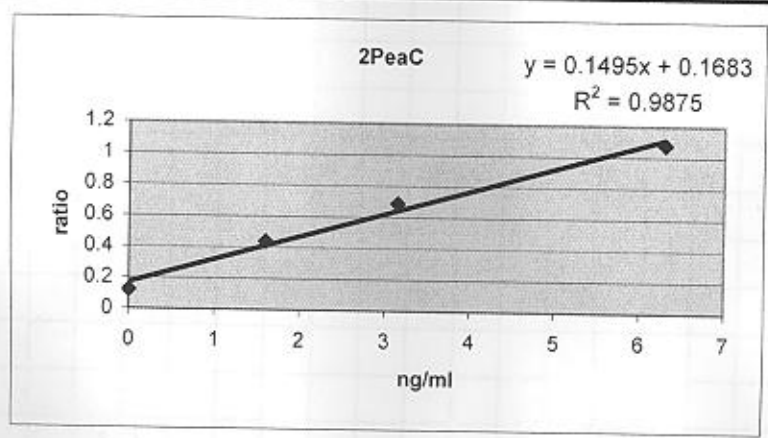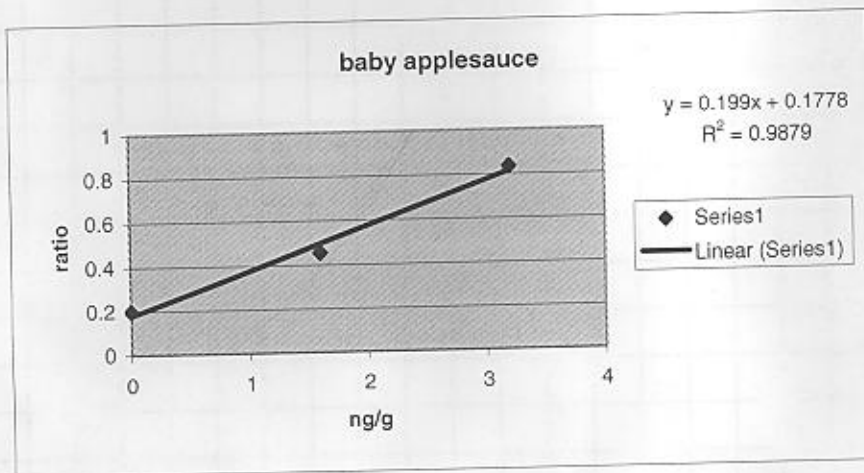
Book No. _____   TITLE _____

From Page No. _____

level	File name	conc spike	68	72	ratio	39	37	42	44
0	3Peax0	0	164987	754709	0.218610087	154698	-	969217	196827
0.5x	3Peax1	1.6	375974	763143	0.492665202	554260	-	994505	201800
1x	3Peax2	3.15	532312	723977	0.735260927	727615	87987	957098	191345
2x	3Peax3	6.3	926179	770329	1.202316153	1E+06	212097	1055812	202980

3PeaC $y = 0.1553x + 0.2332$
$R^2 = 0.9989$
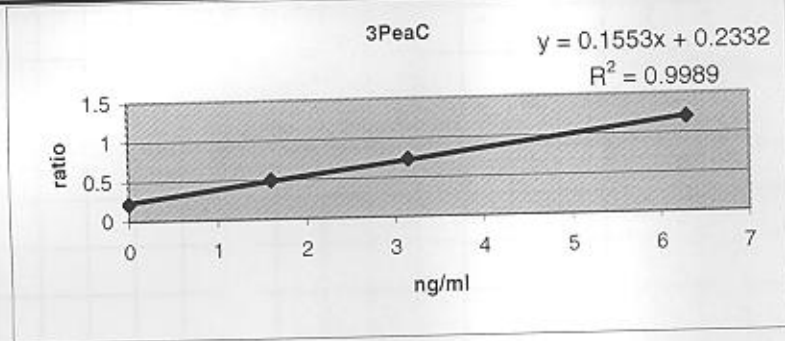
6 ng/ml

Applesauce

level	File name	conc spike	68	72	ratio	39	37	42	44
0	Appx0	0	149065	752136	0.198188891	190220	-	988937	198157
0.5x	APPX1	1.6	345023	757346	0.455568525	450034	-	1012516	198797
1x	APPx2	3.2	582872	698021	0.835035049	775556	121667	943906	179462
2x	APPX3	6.3	750841	746656	1.005604991	986704	158716	1044240	195744

baby applesauce $y = 0.199x + 0.1778$
$R^2 = 0.9879$

♦ Series1
— Linear (Series1)

Amount 3.6 ng/ml

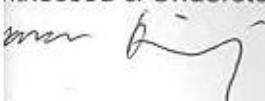Witnessed & Understood by me,   Date 1/18/07   Invented by: Date

Recorded by:

15_07_08

Procedures

I.   Prepare spiked solution 0.63 µg/ml furan: 1/10 dilution of 6.3µg/ml by micropipette 1000 µl of furan into 10 ml of water (20ml vial)

II.   Prepare a new batch of Jewel June medium pea, lot A (AYB6217), can C, from the refrigerated canned that had been opened once on7/9/08: 100g of can C into 300 ml of water in 500 ml glass bottle. Homogenized/keep cold

III.   Prepare a new batch of carrot lot A can A (Jewel sliced carrot:AGCA267; opened 7/14/08): taking 100 g of carrot into 300 ml of water in 500 ml glass bottle. Homogenized/keep cold.

IV.   Prepare two batches of carrot lot B can A (Jewel sliced carrot:NGBA317); opened 7/15/08; taking 100 g of carrot into 300 ml of water in a 500 glass bottle. Homogenized/keep cold.

V.   Furan analysis of 3 samples (sequence set at day time): 1. sliced carrot lot A can A 2. Applesauce lot A can A 3. Pea Lot A can C

a. For sliced carrot lot A can A (data file carra1-4):
1. Take 10 g of sample into 20 ml vial
2. Incubate in ice for 5 mins
3. Fortified 1.6 µg/ml d4-furan and 0.63 µg/ml furan

X0 : 10 g + 25 µl 1.6µg/ml d4-furan

X1 : 10 g + 25 µl 1.6 µg/ml d4 furan + 25 µl 0.63 spiked furan

X2: 10 g + 25 µl IS + 50 µl of 0.63 spiked furan

X3: 10 g + 25 µl IS + 100 µl of 0.63 spiked furan

b. For applesauce (data filepeac1-3,applx3):
1   Take 10 g of sample into 20 ml vial
2   Incubate in ice for 5 mins
3   Fortified 1.6 µg/ml d4-furan and 0.63 µg/ml furan

X0 : 10 g + 25 µl 1.6µg/ml d4-furan

X1 : 10 g + 25 µl 1.6 µg/ml d4 furan + 25 µl 0.63 spiked furan

X2: 10 g + 25 µl IS + 50 µl of 0.63 spiked furan

X3: 10 g + 25 µl IS + 100 µl of 0.63 spiked furan

c. For Pea(data file peac5-8).
1   Take 10 g of sample into 20 ml vial
2   Incubate in ice for 5 mins
3   Fortified 1.6 µg/ml d4-furan and 0.63 µg/ml furan

X0 : 10 g + 25 µl 1.6µg/ml d4-furan

X1 : 10 g + 25 µl 1.6 µg/ml d4 furan + 25 µl 0.63 spiked furan

X2: 10 g + 25 µl IS + 50 µl of 0.63 spiked furan

X3: 10 g + 25 µl IS + 100 µl of 0.63 spiked furan

Witnessed & Understood by me,	Date	Invented by:	Date
	7/14/08	Recorded by:	

VI.   Prepare a sample and sequence to run overnight

a. **For liquid pea lot A can C, run duplicate analysis of liquid pea (data file LPEAC1 -8)**

1. Pipette 2ml of pea liquor into a vial having 8ml vial (2/10 tct; dil factor=5); 8 vials (2 set)
2. Incubate in ice for 5 mins
3. Spiked 15 µl of 1.67 µg/ml d4-furan and 0.63 µg/ml furan

X0: 10 ml sample + 15 µl IS
X1: 10 ml sample + 15 IS + 15 µl spiked
X2: 10 ml sample + 15 IS + 30 µl spiked
X3: 10 ml sample + 60 µl spiked

b. **Prepare 1 set of solid carrot lot A can A**

1. From a batch of dilute sample prepared in the day time, transferred 10 g of sample into a 20g headspace vial
2. Incubate in ice for 5 mins
3. spiked 15 µl of 1.67 µg/ml d4-furan and 0.63 µg/ml furan

X0: 10 g sample + 15 µl IS
X1: 10 g sample + 15 µl IS + 15 µl spiked
X2: 10 g sample + 15 µl IS + 30 µl spiked
X3: 10 g sample + 15 IS + 60 µl spiked

c. **Prepare 1 set of liquid carrot lot A can A**

1. Pipette 8 ml of water into 20 ml headspace vial
2. From a batch of liq carrot prepared in daytime, pipette 2 ml of sample in to each vial. Vortex.
3. Incubate in ice
4. spiked 15 µl of 1.67 µg/ml d4-furan and 0.63 µg/ml furan

X0: 10 g sample + 15 µl IS
X1: 10 g sample + 15 µl IS + 15 µl spiked
X2: 10 g sample + 15 µl IS + 30 µl spiked
X3: 10 g sample + 15 IS + 60 µl spiked

TITLE _____ Project No. _____
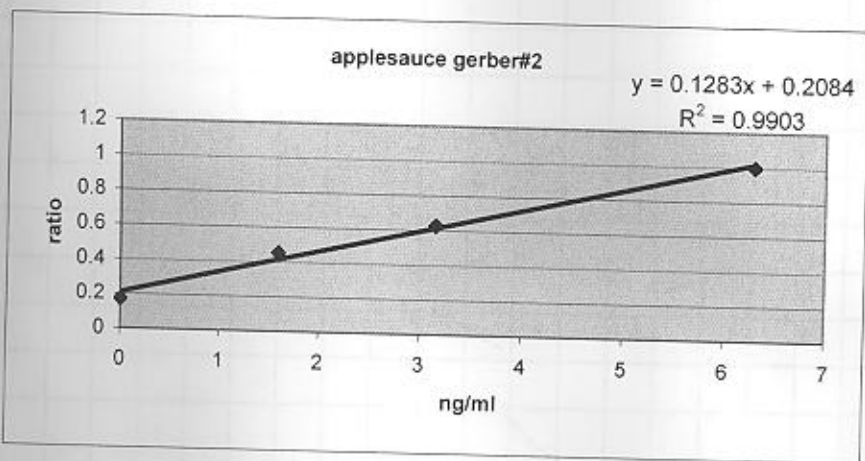From Page No. ____ Book No. _____

15/7/07 Day-time
Spiked fura 0,25,50,100ul spiked of 0.63 ug/ml   d4-furan 1.6 ug/ml
carrot lot A #1

level	File name	conc spik	68	72	ratio	39	37	42	44
0	carra1.d	0	171979	844501	0.203645703	228911	34939	1E+06	227219
0.5x	carra2.d	1.6	372481	728951	0.51098222	494968	81094	989207	194552
1x	carra3.d	3.15	475746	688564	0.690924881	632098	99940	936469	180056
2x	carra4.d	6.3	422890	562748	0.751473128	557005	91183	759760	148797

carrot lot A $y = 0.1549x + 0.2233$
$R^2 = 0.9803$
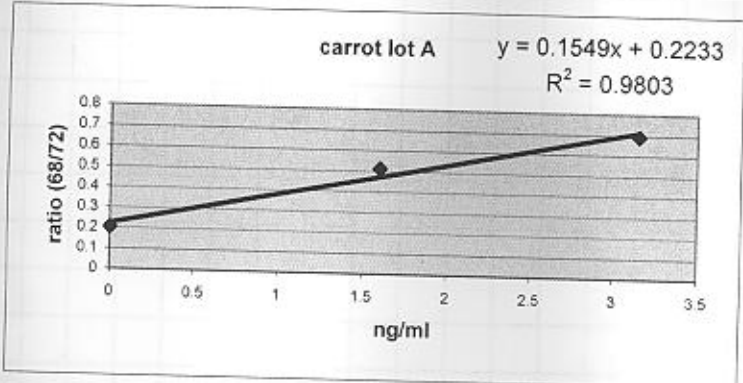
Amount 5.7 ng/ml

applesau	file name	conc spik	68	72	ratio	39	37	42	44
0	peac1	0	113410	662084	0.171292464	138439	22681	849998	174217
0.5x	pea2	1.6	299765	661369	0.453249245	396530	60422	872681	173776
1x	peac3	3.15	382366	609367	0.627480648	506820	76418	826699	160252
2x	applx3	6.3	422335	422839	0.998808057	560488	91082	591412	113072

applesauce gerber#2 $y = 0.1283x + 0.2084$
$R^2 = 0.9903$ Amount   6.4 ng/ml

Witnessed & Understood by me,   Date 7/15/08   Invented by: Recorded by: To Page No. ____   Date

Project No. _____

Book No. _____ TITLE _____

From Page No. _____

Pea samp	file name	conc spik	68	72	ratio	39	37	42	44
0	peac5.D	0	169548	464965	0.364646801	226703	37812	618801	124022
0.5x	peaC6.D	1.6	270483	423489	0.638701359	358416	59394	575431	111088
1x	PEAC7.D	3.15	364358	435491	0.836660229	470361	79783	593949	115220
2x	PEAC8.D	6.3	577459	445059	1.297488648	759737	125130	626290	117931

pea lot A can C

$y = 0.1462x + 0.3806$

$R^2 = 0.9981$
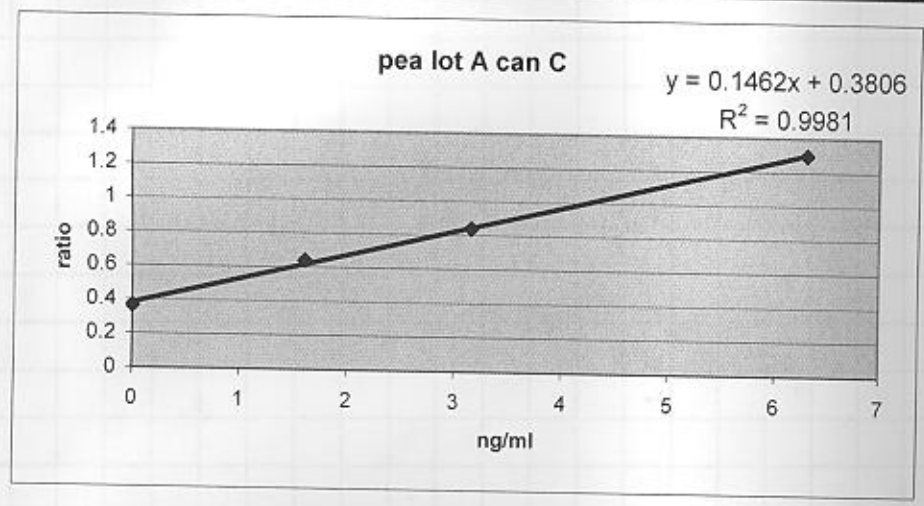
Amount 10.41 ng/ml

Witnessed & Understood by me,

Date 7/15/08

Invented by:

Recorded by:

To Page No. _____

Project No. _____

Book No. _____

TITLE _____

From Page No _____

15_7_08 night time
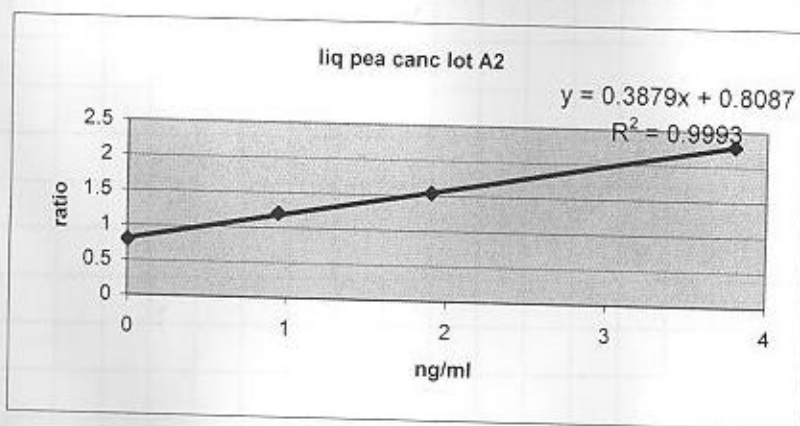spiked furan 0,15,30,60 ug/ml of 0.63 ug/ml furan,1.67 ug/ml d4-furan

Pea liquo	file name	conc spiked (	68	72	ratio	39	37	42	44
0	Lpeac1	0	254673	314279	0.810340494	337729	56681	424178	80497
0.5x	LpeaC2	0.95	375233	302909	1.238764778	487369	83855	384573	80652
1x	LpeaC3	1.9	486235	304630	1.596149427	636703	106466	381607	81793
2x	LpeaC4	3.8	667240	301174	2.215463486	871466	143449	368604	78055

liq pea canC lot A $y = 0.3653x + 0.8578$
$R^2 = 0.9941$
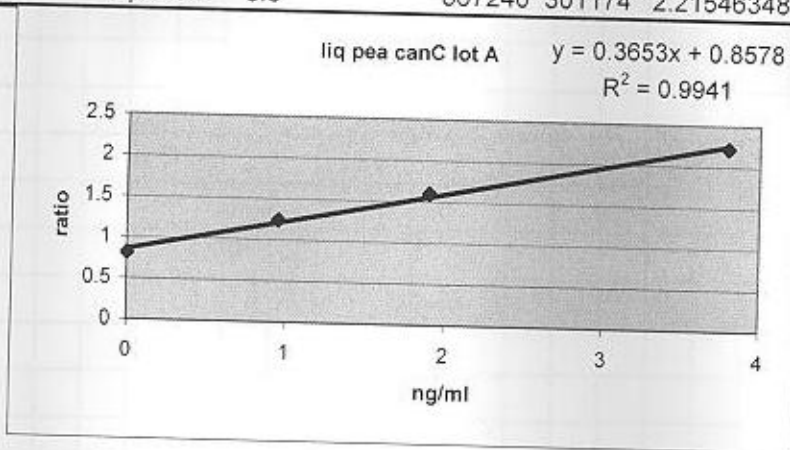
Amount   11.7 ng/ml

Pea liquo	file name	conc spiked (	68	72	ratio	39	37	42	44
0	Lpeac5	0	245218	308620	0.794562893	325472	52954	422369	81452
0.5x	LpeaC6	0.95	339730	282810	1.201265868	446507	67517	357671	74618
1x	LpeaC7	1.9	417452	271419	1.538035289	545644	91012	347153	71844
2x	LpeaC8	3.8	640646	280902	2.280674399	835252	138423	351251	74407

liq pea canc lot A2

$y = 0.3879x + 0.8087$
$R^2 = 0.9993$

Amount   10.4 ng/ml

Witnessed & Understood by me,   Date 7/15/08   Invented by: Date

To Page No. _____

Recorded by:

16/7/08

Procedures
1. Bring a batch of solid carrot lot B, solid carrot lot A, liquid carrot lot B out of a refrigerator and defrost in a water bath
2. Prepare test portions for a run overnight

a) **solid carrot lot B (File name ca2bx0-3,car2bx0-3,carb01-04)**
1. Bring out 1.67 µg/ml d4-furan and 6.3 µg/ml furan out and let it sit at room temperature
2. Dilute 6.3 µg/ml furan by taking 1000µl of 6.3 µg/ml into 9 ml water
3. Transfer 10 g of solid carrot lot B into a headspace vial (triplicate)
4. Incubate in ice for 5 mins
5. Spike 1.67 µg/ml d4-furan and 0.63 µg/ml furan
X0 : 10 g + 15 µl d4-furan
X1: 10 g + 15 ul d4-furan + 15 ul spiked furan
X2: 10 g + 15 µl d4 furan + 30 µl spiked furan
X3: 10 g + 15 µl furan + 60 µl spiked furan

b) **solid carrot lot A (File name carax0-3)**
1. Transfer 10 g of solid carrot lot A into 20 headspace vial
2. Incubate in ice for 5 mins
3. Spike 1.67 µg/ml d4-furan and 0.63 µg/ml furan
X0 : 10 g + 15 µl d4-furan
X1: 10 g + 15 ul d4-furan + 15 ul spiked furan
X2: 10 g + 15 µl d4 furan + 30 µl spiked furan
X3: 10 g + 15 µl furan + 60 µl spiked furan

c) **liquid carrot lot B (File name carlb1-4)**
1. Pipette 8 ml of water into a headspace vial
2. Transfer 2 ml of liquid carrot into the vial
3. Vortex
4. Spike 1.67 µg/ml d4-furan and 0.63 µg/ml furan
X0 : 10 g + 15 µl d4-furan
X1: 10 g + 15 ul d4-furan + 15 ul spiked furan
X2: 10 g + 15 µl d4 furan + 30 µl spiked furan
X3: 10 g + 15 µl furan + 60 µl spiked furan

Witnessed & Understood by me,   Date 7/16/08   Invented by:
        Date
        Recorded by:

7/16/2008   carrot lot B

IS d4-furan 1.67 g/ml

spiked furan 0.63 ug/ml   0,15,30, ng/ml

	data file	conc	68	72	ratio	39	37	42	44
0	CA2Bx0	0	224100	222185	1.008618944	290007	45818	274718	57286
0.5x	CA2Bx1	0.945	344178	219561	1.567573476	441591	70769	268806	56399
1x	CA2Bx2	1.89	341162	158460	2.15298498	438359	69411	198491	43280
2x	CA2Bx3	3.8	460160	141059	3.262181073	591816	93914	169552	36787

Chart Title

$y = 0.5939x + 1.0128$

$R^2 = 0.9998$

◆ carrot lot B#2

—— Linear (carrot lot B#2)
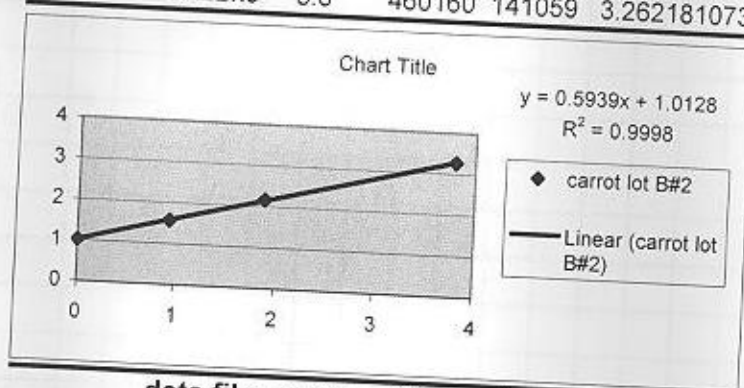
Amount   6.8 ng/ml

	data file	conc	68	72	ratio	39	37	42	44
0	CAR2Bx0	0	172603	159864	1.079686484	220777	34715	200003	42974
0.5x	CAR2Bx2	0.945	286023	171236	1.670343853	342195	55022	146856	31570
1x	CAR2Bx1	1.89	271396	119595	2.269292194	355346	58120	207541	44558
2x	CAR2Bx3	3.8	392488	118596	3.309453944	497567	80711	147259	32788

Chart Title $y = 0.5859x + 1.1104$

$R^2 = 0.9984$

◆ carrot lot B #2

—— Linear (carrot lot B #2)
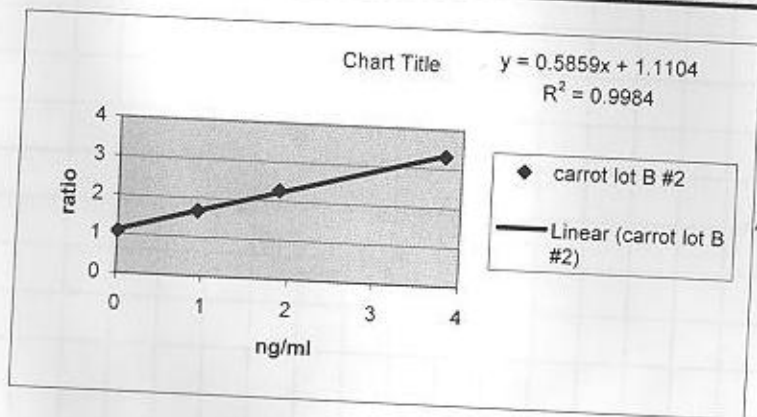
Amount   7.6 ng/ml

Witnessed & Understood by me,

Date 7/16/08

Invented by:

Recorded by:

To Page No. ____
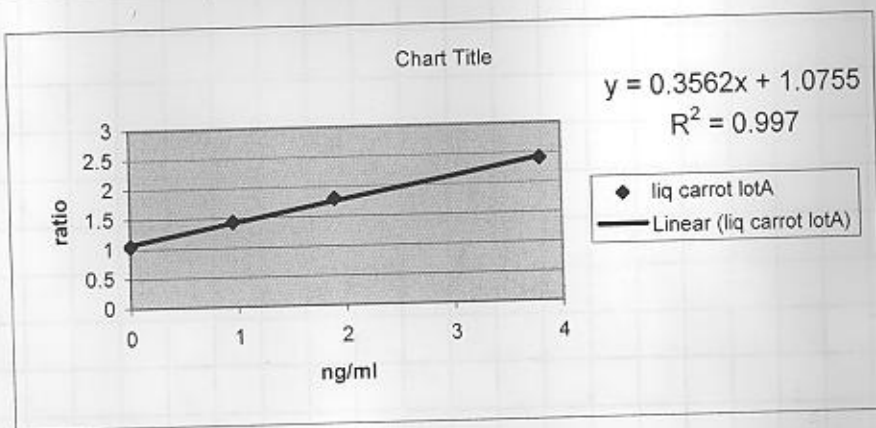
Date

Project No. _____
Book No. _____ TITLE _____
From Page No. _____

Carrot Lot A can A	conc spiked (	68	72	ratio	39	37	42	44
0	Cara201.d	0	197904	353566	0.559737079	259004	40605	472591	92811
0.5x	cara202	0.95	313632	318429	0.984935417	400182	65853	439376	87321
1x	cara203	1.9	309402	271316	1.140375061	404419	65049	378303	72570
2x	cara204	3.8	500010	256356	1.950451716	652129	104813	319978	68160

carrot lotA canA

$y = 0.3555x + 0.5678$
$R^2 = 0.9823$
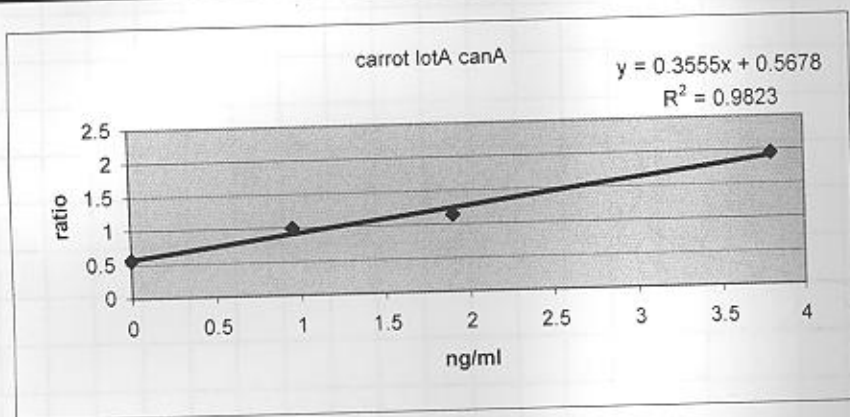
Amount   6.4 ng/ml

Liq carrot lota can	conc spiked (	68	72	ratio	39	37	42	44
0	carL01	0	294450	281630	1.045520719	384317	61216	389981	73445
0.5x	carl02	0.95	386284	270380	1.42867076	502079	82894	345806	71040
1x	carl03	1.9	347266	194024	1.789809508	452335	73255	239776	52740
2x	carl04	3.8	653511	271580	2.406329627	876220	145123	21171	74303

Chart Title

$y = 0.3562x + 1.0755$
$R^2 = 0.997$

◆ liq carrot lotA
— Linear (liq carrot lotA)

Amount   15 ng/ml

Witnessed & Understood by me,

Date 7/16/08

Invented by:

Recorded by:

Date

To Page No. _____

Project No. ___
Book No. ___

TITLE ___

From Page No. ___

	data file	conc	68	72	ratio	39	37	42	44
0	CARAX0	0	172626	188782	0.914419807	215642	35222	253839	47746
0.5x	CARAx1	0.945	258261	176137	1.466250703	322047	53127	214201	43660
1x	CARAx2	1.89	291607	158751	1.836882917	374643	58521	194363	42219
2x	CARAx3	3.8	494625	141352	3.499243025	497147	80596	169621	36744

carrot solid lot A

$y = 0.6778x + 0.8049$
$R^2 = 0.9762$

♦ carrot lot A#3

— Linear (carrot lot A#3)
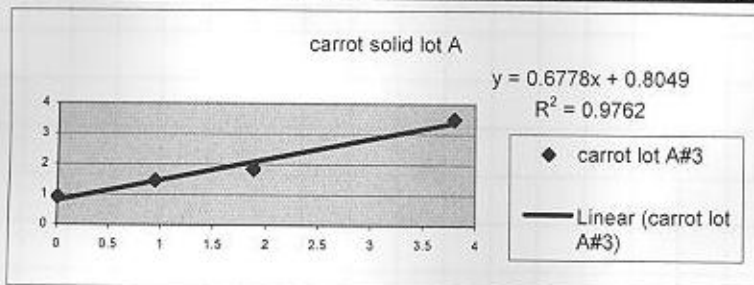
4.75 ng/ml

	data file	conc	68	72	ratio	39	37	42	44
0	carb01	0	198891	361304	0.550481035		43778	475046	94663
0.5x	carb02	0.945	321670	214165	1.501972778		64490	261582	54308
1x	carb03	1.89	413555	277227	1.491755854	532352	86720	339316	73115
2x	carb04	3.8	595375	263050	2.263352975	759107	126539	321578	67907

carrot lot B

$y = 0.4059x + 0.7786$
$R^2 = 0.8822$

♦ Series1
— Linear (Series1)

ratio / ng/ml
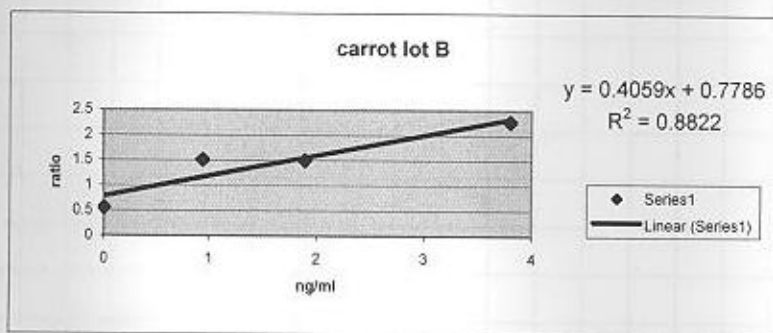
	data file	conc	68	72	ratio	39	37	42	44
0	carlb1	0	191111	158582	1.205124163	241788	36404	216823	40448
0.5x	carlb2	0.945	313952	173238	1.812258281	401523	61551	207699	43792
1x	carlb3	1.89	395592	187198	2.113227705	459490	75466	226034	49282
2x	carlb4	3.8	635852	175793	3.617049598	805246	134330	213570	45667

Chart Title

$y = 0.6255x + 1.1493$
$R^2 = 0.9797$

♦ liq carrot lot B

— Linear (liq carrot lot B)

ratio / ng/ml
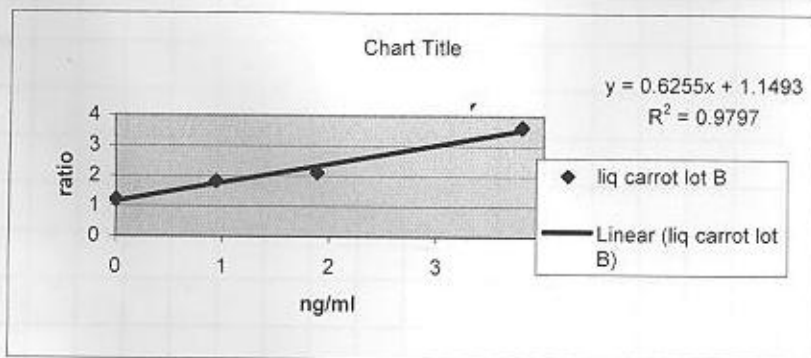
Amount   7.3 ng/ml

Witnessed & Understood by me,   Date 7/16/08   Invented by: Date

Recorded by:

7/17/08

Procedures

I.   Prepare 0.63 μg/ml of furan solution by taking 1000 μl of 6.3 μg/ml furan working solution
   1. Take 1000 μl of 6.3 μg/ml furan into a 20 ml vial containing 9 ml of water

II.   Measure furan in solid carrot lot A
   1. Brought a batch of solid carrot out and put it on a water bath to let it defrost
   2. Transfer 10 g of sample into a 20 ml headspace vial
   3. Incubate in ice for 5 minutes
   4. Fortified 25μl of 1.67 μg/ml of d_4-furan and 0,20,40 and 80μl of 0.63 μg/ml furan
   X0 : 10 g sample + 25 μl of IS
   X1 : 10 g sample + 25 μl of IS + 20 μl spiked furan
   X2 : 10 g sample + 25 μl of IS + 40 μl spiked furan
   X3 : 10 g sample + 25 μl of IS + 80 μl spiked furan

III.   Measure furan in liquid carrot lot A
   1. Brought a batch of liquid carrot lot A
   2. Defrost in a water bath
   3. Take 8 ml of water into a 20 ml vial and 2 ml of liquid carrot into the vial
   4. Mix using vortex
   5. Fortified d4-furan (1.67 μg/ml) and furan (0.63 μg/ml)
   X0 : 10 g sample + 25 μl of IS
   X1 : 10 g sample + 25 μl of IS + 20 μl spiked furan
   X2 : 10 g sample + 25 μl of IS + 40 μl spiked furan
   X3 : 10 g sample + 25 μl of IS + 80 μl spiked furan

IV.   Measure furan in Corn (Del monte,Whole Kernel corn, no salt added, lot 724714) solid and liquor.
   1. Brought out a refrigerated corn and let it defrost in a water bath
   2. Open the can and quickly separated the solid and the liquid
   3. For solid, take 100 g into 500 ml bottle (cold) and homogenize

   a.) Solid corn
   - Transfer 10 g of homogenized solid portion of corn into 20 ml headspace vial. Incubate in ice. Fortified 25 μl d4-furan (1.67 μg/ml) and Spike 0,20,40,and80 μl (0.63 μg/ml)

   b.) Liquid corn
   - Transfer 10 ml of corn liquor into a 20 ml headspace vial. Incubate in ice. Fortified 25 μl d4-furan (1.67 μg/ml) and Spike 0,20,40,and80 μl (0.63 μg/ml)

Witnessed & Understood by me,   Date 7/16/08   Invented by:

Recorded by:

Project No. _____
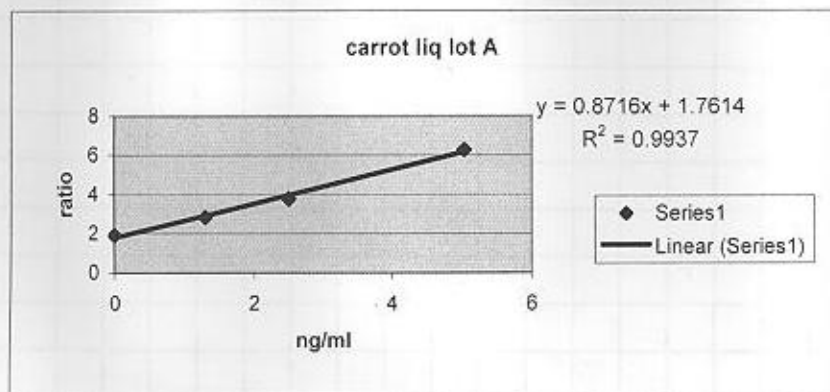
Book No. _____

TITLE _____

From Page No. ____

7/17/2008
IS d4-furan 1.67 g/ml
spiked furan 0.63 ug/ml   0,20,40,80   ul added

	data file	conc	68	72	ratio	39	37	42	44
0	1lcorn1.d	0	40828	102887	0.3968237	49983	7652	129791	25787
0.5x	1lcorn2.d	1.3	154781	91507	1.691466227	195015	31971	110578	22718
1x	1lcorn3.d	2.5	260171	94794	2.74459354	329929	54791	115377	24564
2x	1lcorn4.d	5.04	402726	83959	4.796698388	512948	82030	99585	22125

liq corn

$y = 0.8659x + 0.4937$
$R^2 = 0.9975$

Amount   2.85 ng/ml
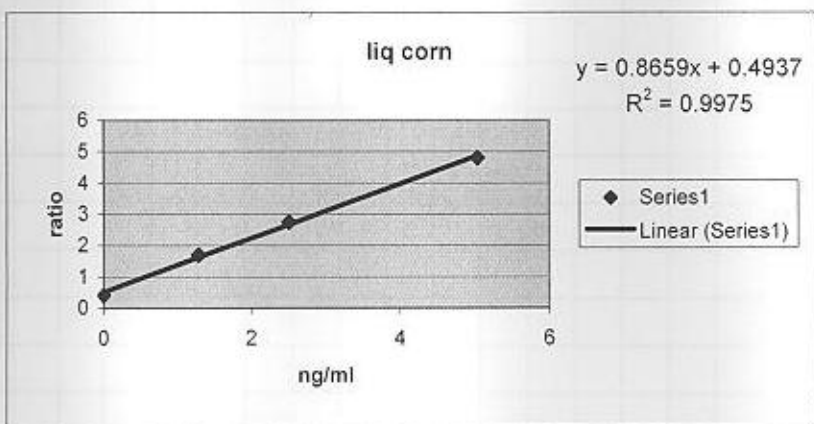
	data file	conc	68	72	ratio	39	37	42	44
0	2lcarx0	0	298342	156953	1.900836556	378060	61388	189629	44764
0.5x	2lcarx1	1.3	483673	171088	2.827042224	615431	101733	203482	43748
1x	2lcarx2	2.5	623266	165626	3.763092751	783436	129062	197168	37009
2x	2lcarx3	5.04	888969	142011	6.259860152	1E+06	181868	167030	29636

carrot liq lot A

$y = 0.8716x + 1.7614$
$R^2 = 0.9937$

Amount   10.1 ng/ml

To Page No. ____

Witnessed & Understood by me,   Date 7/17/08   Invented by: Date

Recorded by:

Project No. _____
Book No. _____ TITLE _____

data file	conc	68	72	ratio	39	37	42	44
0	2scorn1.d 0		69612	118294	0.588466025	87463	14792	153925	29636
0.5x	2scorn2.d 1.3		178667	107282	1.665395873	226447	36946	130859	28047
1x	2scorn3.d 2.5		284518	110753	2.568941699	360628	58565	134291	28475
2x	2scorn4.d 5.04		481918	113349	4.251629922	607172	100687	138466	29550

solid corn lot A

$y = 0.7215x + 0.674$
$R^2 = 0.997$

◆ Series1
— Linear (Series1)
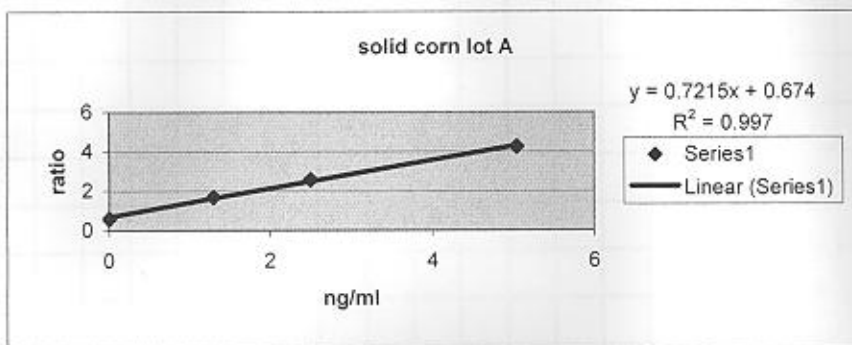
Amount   3.74 ng/g

data file	conc	68	72	ratio	39	37	42	44
0	3ax0	0	181182	174612	1.03762628	229717	37681	212148	43050
0.5x	3ax1	1.3	330075	176306	1.872171112	422172	69192	215461	46099
1x	3ax2	2.5	477774	158060	3.022738201	602327	98411	192080	41972
2x	3ax3	5.04	487346	126035	3.866751299	614130	98501	154353	34386

carrot lot A $y = 0.5666x + 1.1975$
$R^2 = 0.9504$

◆ Series1
— Linear (Series1)
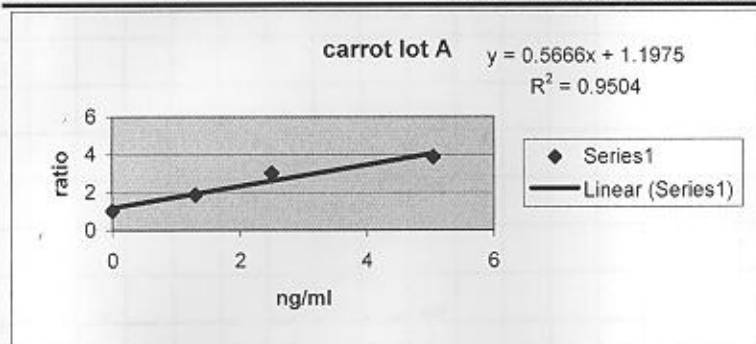
data file	conc	68	72	ratio	39	37	42	44
0	scorn1	0	60076	98287	0.611230376	76025	11693	131287	26397
0.5x	scorn2	1.3	165426	97592	1.695077465	215369	35586	121105	26302
1x	scorn3	2.5	306329	118926	2.575795032	391088	64311	146652	32264
2x	scorn4	5.04	440093	97627	4.507902527	565103	91949	118147	24997
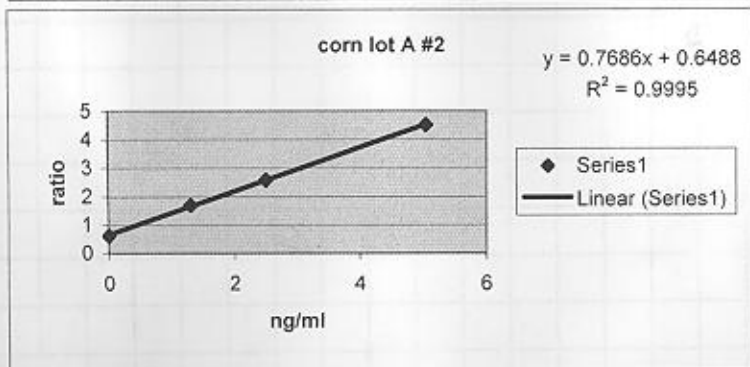
corn lot A #2

$y = 0.7686x + 0.6488$
$R^2 = 0.9995$

◆ Series1
— Linear (Series1)

amount   3.4 ng/g

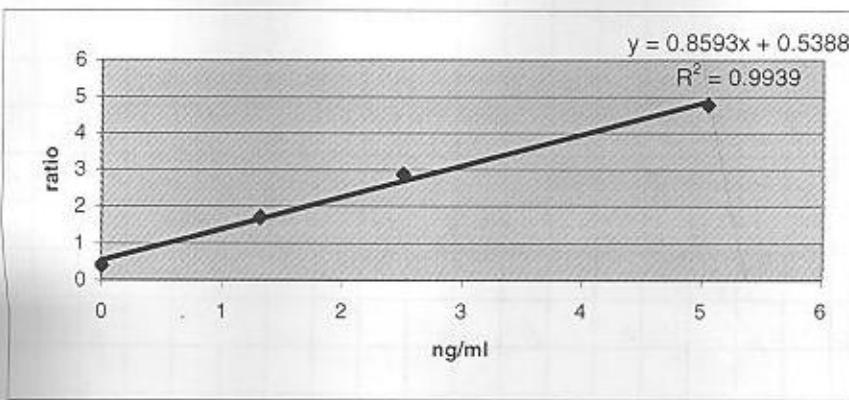| Witnessed & Understood by me,	Date	Invented by:	Date
genan ling	7/17/08	Recorded by:	

Project No. _____
Book No. _____

TITLE _____

From Page No. _14_

18/7/07 7/18 08

d4-furan 0.67 ug/ml

furan 0.63 ng/ml   0,20,40,80   ul

	data file	spike conc	68	72	ratio	39	37	42	44
0	2lcorn1	0	41470	100216	0.413806179	51833	nd	124039	nd
0.5x	2lcorn2	1.3	181760	107058	1.697771302	226693	nd	146705	nd
1x	2lcorn3	2.5	286190	99601	2.873364725	363096	59991	96982	nd
2x	2lcorn4	5.04	510323	107070	4.766255721	645148	104236	95411	nd

$y = 0.8593x + 0.5388$
$R^2 = 0.9939$

3.15ng/nl

Witnessed & Understood by me,   Date   Invented by: Date

7/18/08   Recorded by:

Project No. _____

Book No. _____   TITLE _LOD and LOQ_

From Page No. ____

7/28/08

Procedure.
1) Prepare furan stock solution
    1.1) Tare balance after put 40 ml vial on it
    1.2) Pipette 20 ml of water
    1.3) Weigh the water = 19.90346 g (H_1)
    1.4) ~~H~~ Brought out furan and add 4 drops
    1.5) Weigh water + furan = 19.95725 (H_2)
    1.6) Furan stock solution = $\dfrac{19.95725 - 19.90346}{20\ ml}$ = 0.00269 g/ml

                                = 2.7 mg/ml

2) Prepare furan working solution t
    ~~2.~~ 2.1) Use micropipette to pipette 50 µl of 2.7 mg/ml into
             40 ml vial containing 20 ml water
             The concentration of working sol² = $\left(\dfrac{50 \times 2.7}{1000}\right) \times \dfrac{1}{20.05}$ = 6.7 µg/ml

    2.2) Dilute 2.1 sol² by pipette 200 µl of 6.7 µg/ml into
         a 40 ml vial containing 20 ml of water
         The concentration is $\left(\dfrac{200}{1000} \times 6.7\right) \times \dfrac{1}{20.2}$ = 66.3 ng/ml

    2.3) Prepare 0.3 and 0.5 ng by ~~to~~ YD. putting 92 µl of 66.3 ng/ml into 20 ml
         ~~Prepare~~ and 152 µl of 66.3 ng/ml into 20 ml water to achieved 0.3 or 0.5 ng/ml
         respectively.
    2.4) Prepare 0.2 ng/ml by prepare 33 ng/ml furan (100 µl of 6.7 µg/ml into 20 ml)
         and put 60 µl of 33 ng/ml into 10 ml of water
3) ~~Met~~ Run Furan M GC/MS and analyze S/N ratio (Triplicate)
Results.

Witnessed & Understood by me,   Date   Invented by: Date

                                 7/28/08

                                         Recorded by:

TIC: LODP5A.D

125 mm

7 mm

17.86.
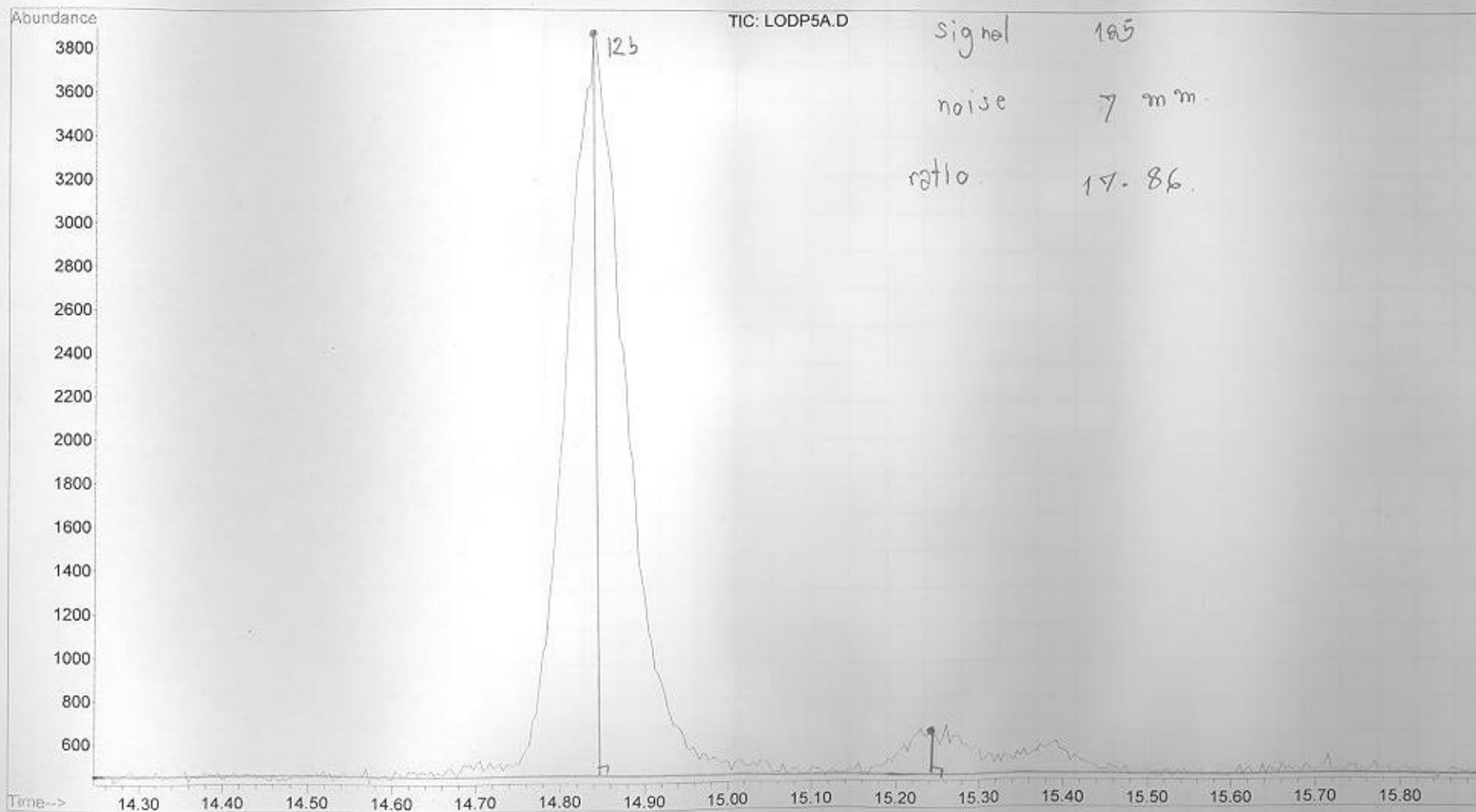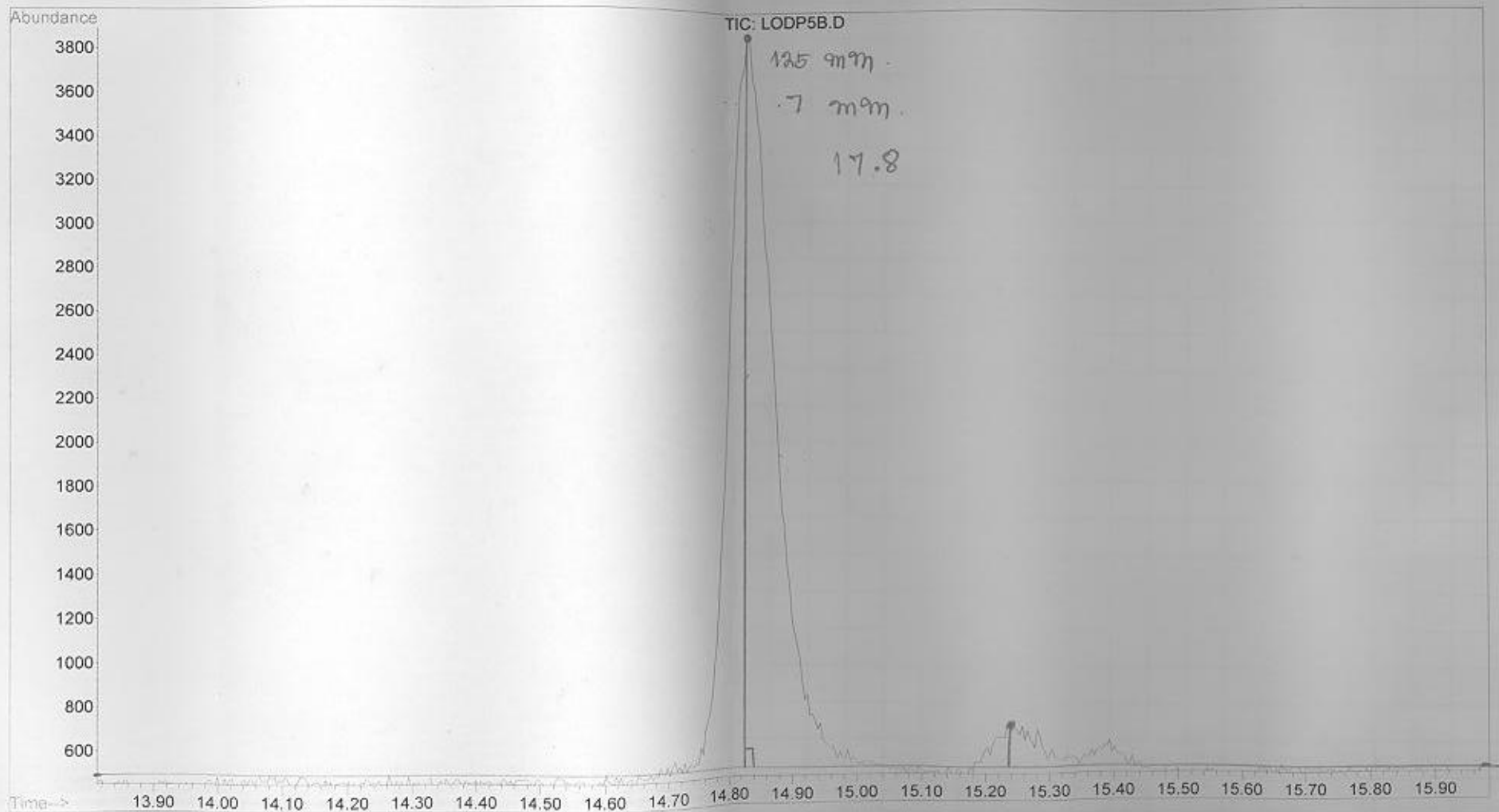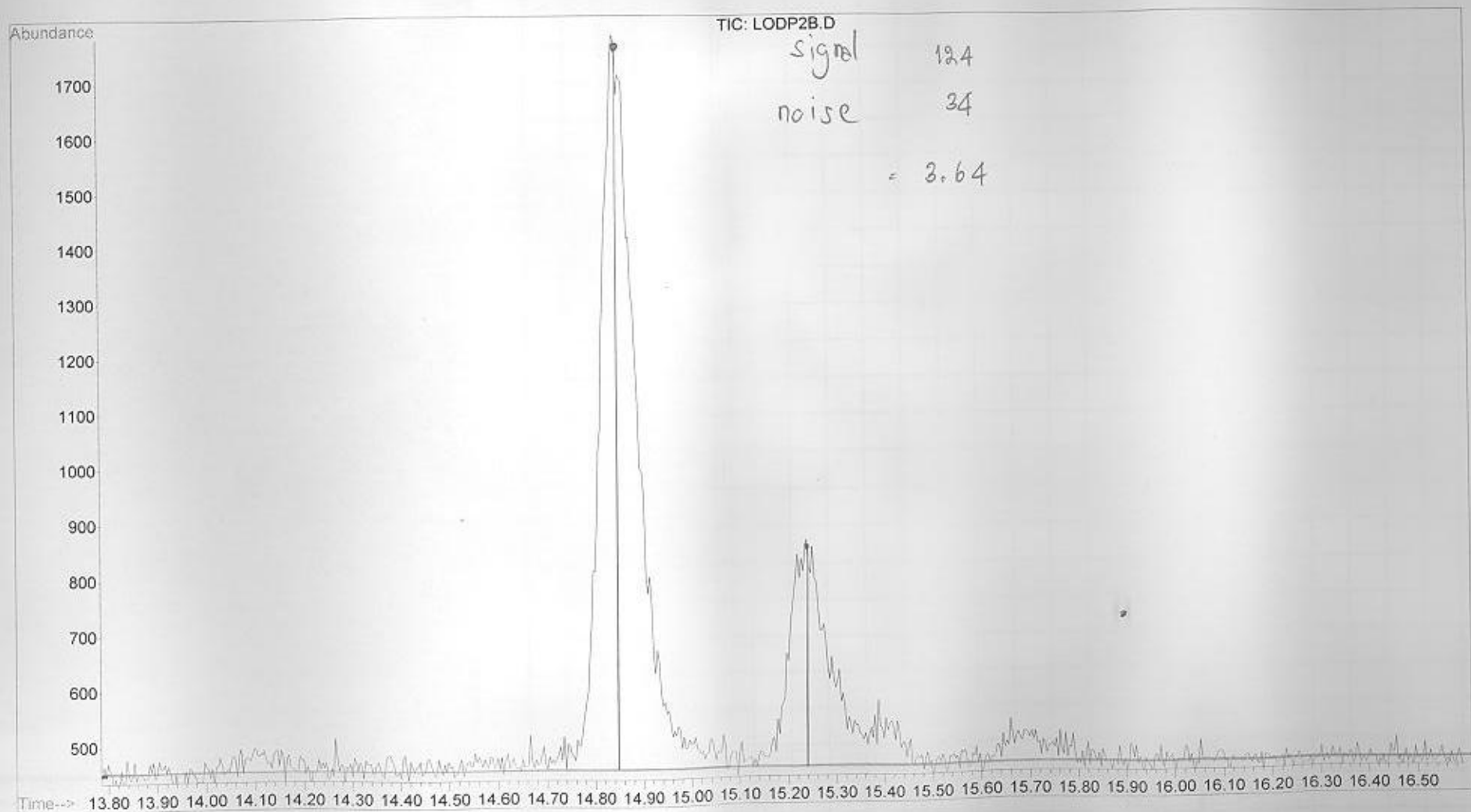
File   : C:\HPCHEM\1\DATA\FERN\072808\LODP5A.D
Operator   :
Acquired   : 28 Jul 2008   19:54   using AcqMethod FURAN
Instrument :   GC/MS Ins
Sample Name: 0.5ng/ml
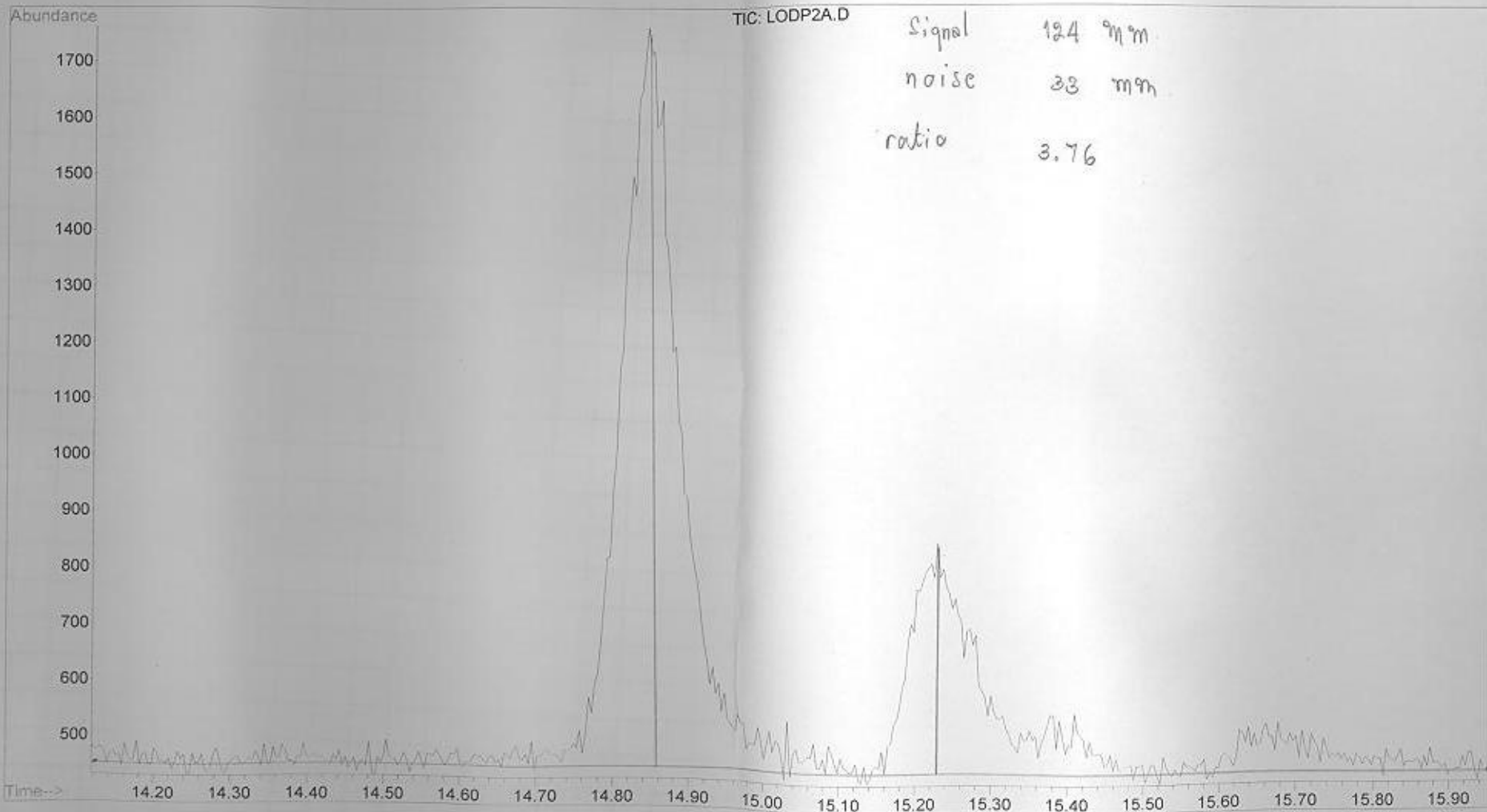Misc Info   :
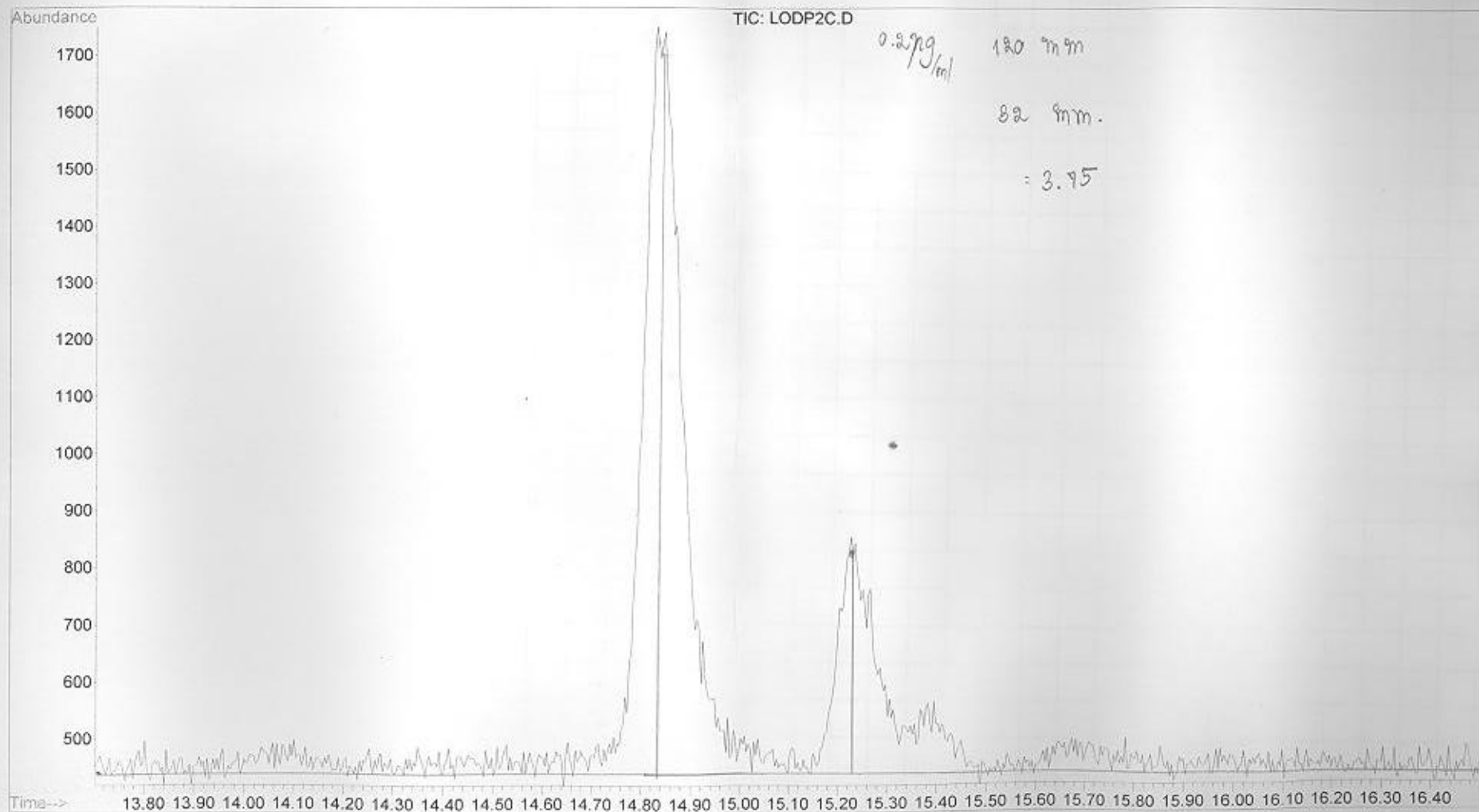Vial Number: 7

Abundance   TIC: LODP5A.D

Signal   185

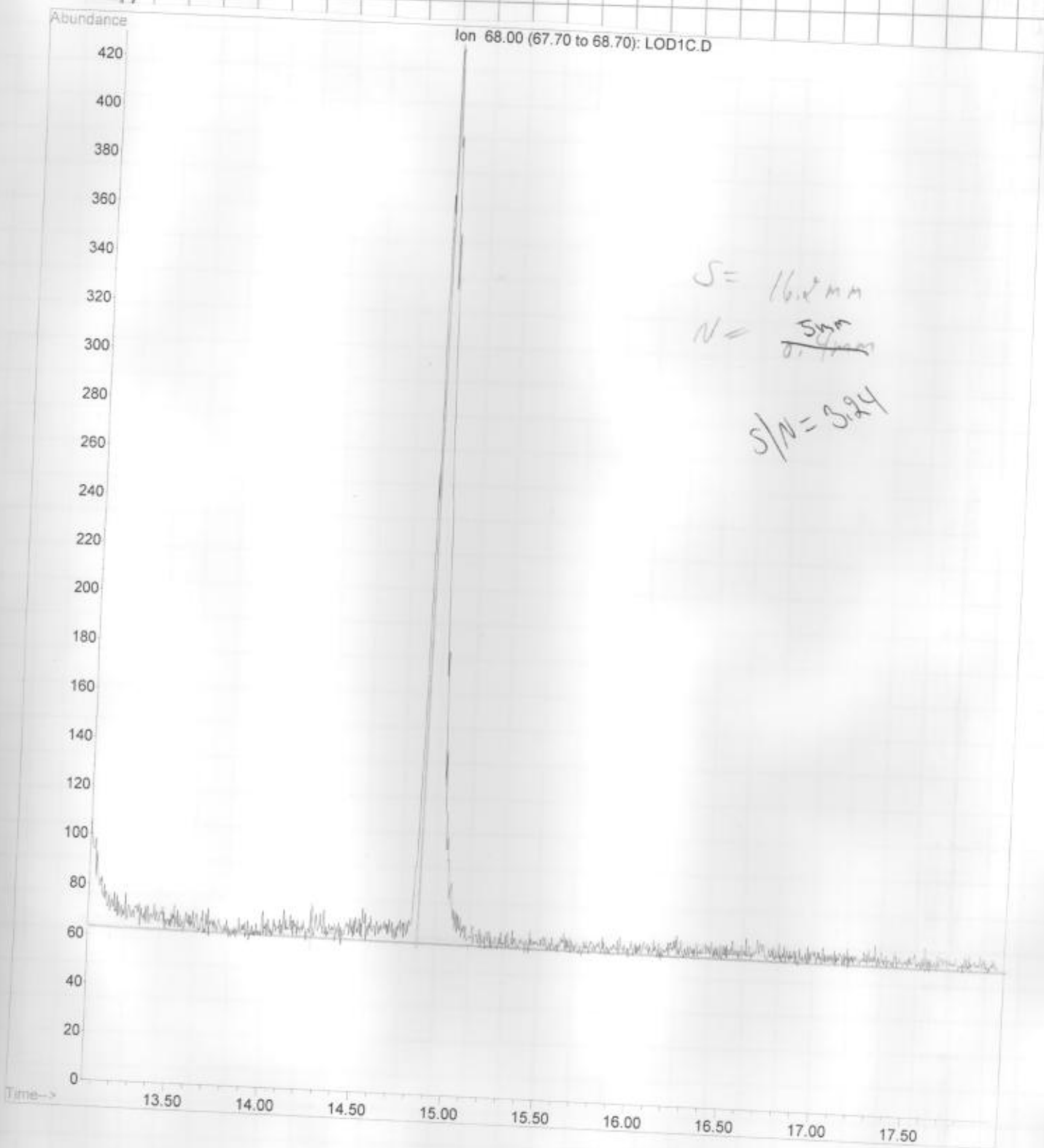noise   7 mm

ratio   17.86

File   : C:\HPCHEM\1\DATA\FERN\072808\LODP5B.D
Operator   :
Acquired   : 28 Jul 2008   20:35   using AcqMethod FURAN
Instrument :   GC/MS Ins
Sample Name: 0.5ng/ml
Misc Info   :
Vial Number: 8

TIC: LODP5B.D

125 mm.

.7 mm.

17.8

File   : C:\HPCHEM\1\DATA\FERN\072808\LODP2B.D
Operator   :
Acquired   : 28 Jul 2008   18:32   using AcqMethod FURAN
Instrument :   GC/MS Ins
Sample Name: 0.2ng/ml
Misc Info :
Vial Number: 5

TIC: LODP2B.D

signal   124

noise   34

= 3.64

TIC: LODP2A.D

Signal   124 mm
noise   33 mm

ratio   3.76

File   : C:\HPCHEM\1\DATA\FERN\072808\LODP2C.D
Operator   :
Acquired   : 28 Jul 2008   19:13   using AcqMethod FURAN
Instrument :   GC/MS Ins
Sample Name : 0.2ng/ml
Misc Info   :
Vial Number : 6

TIC: LODP2C.D

0.2ng/ml   120 mm

82 mm.

= 3.95

TITLE _____

From Page No. ____

0.1 ng/ml

Project No. _____

Book No. _____

Ion 68.00 (67.70 to 68.70): LOD1C.D

$S = 16.2 mm$

$N = \dfrac{5mm}{0.1mm}$

$S/N = 3.24$

Witnessed & Understood by me,

Date 7/18/08

Invented by:

Recorded by:

To Page No. ____

Date

Project No. _____

Book No. _____ TITLE _____

From Page No. ____

0.1 ng/ml

Ion 68.00 (67.70 to 68.70): LOD1A.D

14.87

0.4 ng/ml S/N = 18

$S = 16mm$

$N = \frac{S}{5mm}$

3.2

5mm

Witnessed & Understood by me,

Date 7/28/08

Invented by:

Recorded by:

Date

To Page No. ___

Project No. _____
Book No. _____

TITLE _____

From Page No. _____ | 0.1 ng/ml

Ion 68.00 (67.70 to 68.70): LOD1B.D

Abundance

420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0

Time-->   13.50   14.00   14.50   15.00   15.50   16.00   16.50   17.00   17.50

$S = 16.5 \, mm$

$N = \dfrac{S}{\text{?} \, mm}$

$S/N = 3.3$

To Page No. _____

Witnessed & Understood by me,   Date   Invented by: Date
                                       7/28/08
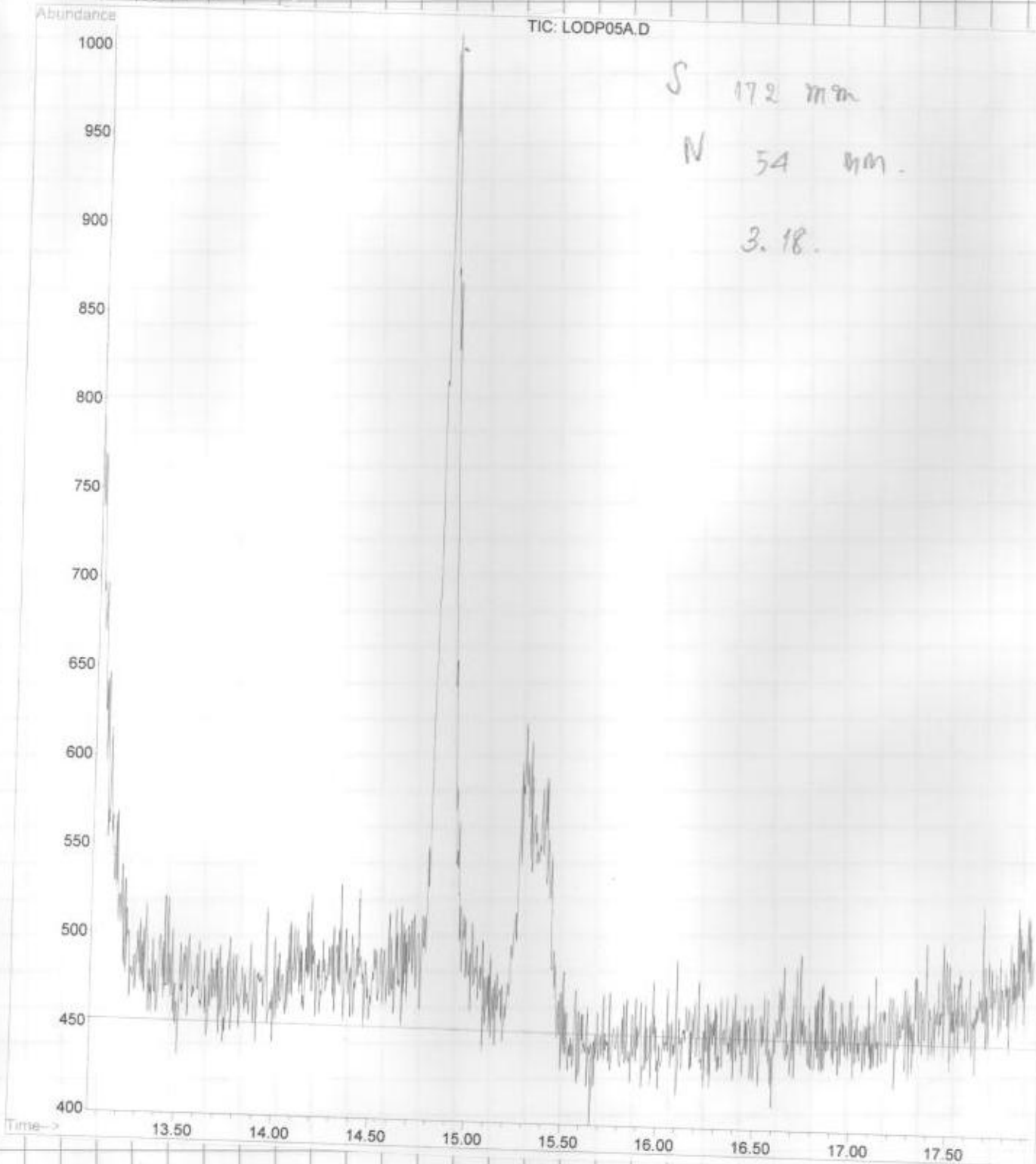   Recorded by:

Project No. _____
Book No. _____ TITLE _____

From Page No. _____

8/01/08

Procedures.
1) Bring out 49.8 ng/ml Furan working solution, prepared by Padma on 7/31/08
2) Take 85 µl of ① into 10 ml of water → 0.05 ng/ml
3) Take 200 µl of ① into 10 ml of water → 0.4 ng/ml
4) Furan analysis. (Triplicate)

Results.

Witnessed & Understood by me,   Date   Invented by: Date

                                            8/01/08
                                                         Recorded by:

To Page No. _____

Project No. _____

TITLE _____

Book No. _____

From Page No. ___

0.05 ng/ml

S   172 mm

N   54 mm.

3.18.

TIC: LODP05A.D

To Page No. ___

Witnessed & Understood by me,

Date   8/01/08

Invented by:

Date

Recorded by:

Project No. _____

Book No. _____   TITLE _____

0.00 ng/ml

TIC: LODP05B.D

| Witnessed & Understood by me, | Date 8/01/08 | Invented by: | Date |
| | | Recorded by: | |

TITLE _____

Project No. _____
Book No. _____

a 4 ng /ml

TIC: LDP4B.D

Project No. _____
Book No. _____ TITLE _____
From Page No. _____ 0.4 ng/ml

TIC: LDP4A.D

S 186 mm

N 38 mm –

5

Witnessed & Understood by me,   Date   Invented by: Date
Yaron Ling   8/01/08

To Page No. _____

Recorded by:

Project No. _____
Book No. _____

TITLE _____

| 0·4 ng/ml |

TIC: LDP4C.D

Abundance

2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500

Time-->   13.50   14.00   14.50   15.00   15.50   16.00   16.50   17.00   17.50
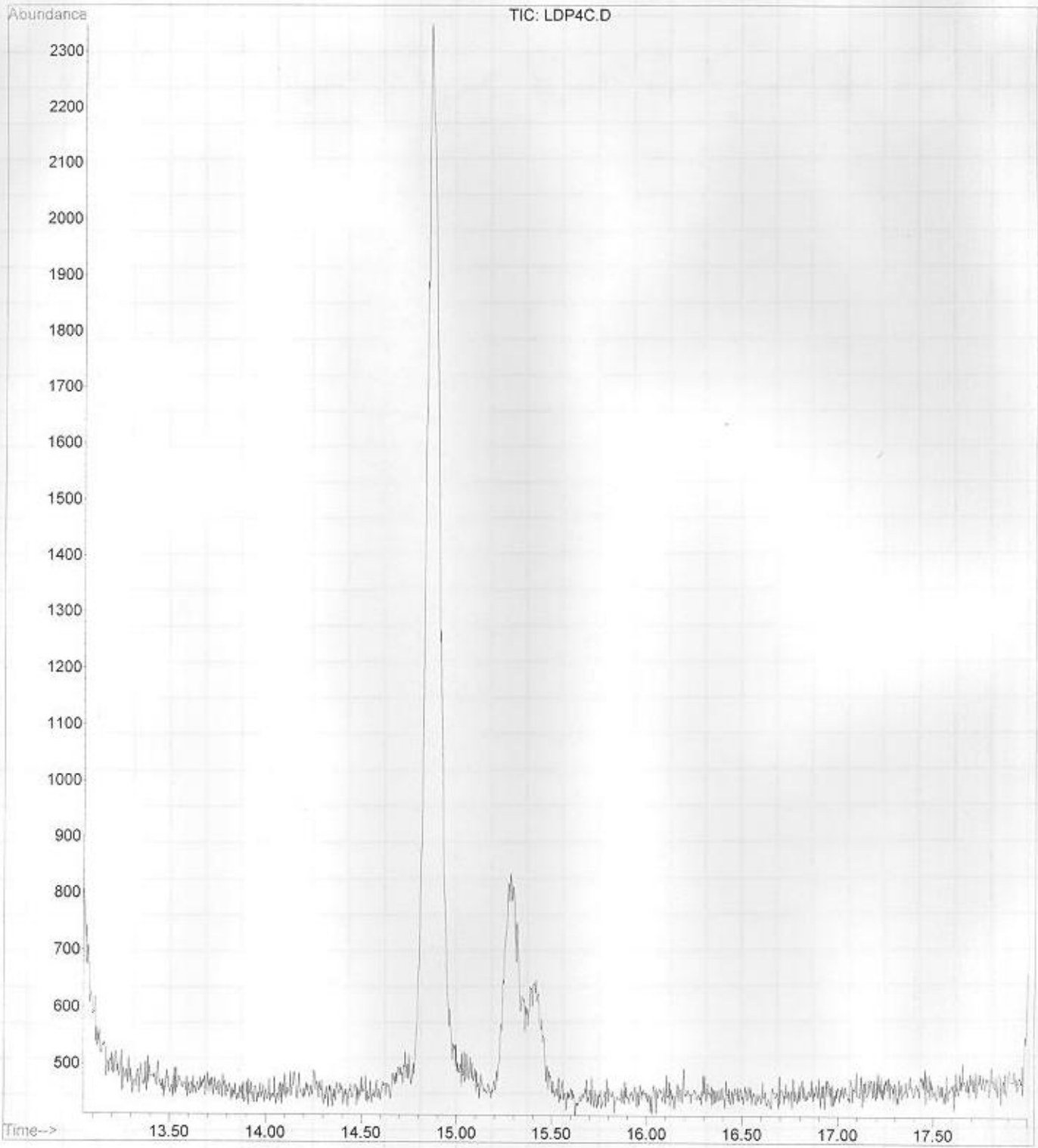
To Page No. ____

Witnessed & Understood by me,   Date   8/01/08   Invented by: Date

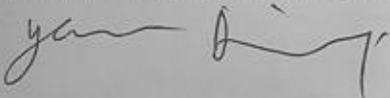Recorded by:

Project No. _____

Book No. _____ TITLE _____

From Page No. _____

Conclusion
- Based on triplicate analysis of 0.05, 0.1, 0.2, 0.4, and 0.5 ng/ml
The LOD that gives S/N = 3 is 0.1 ng/ml
and the LOQ that gives S/N = 10 is 0.5 ng/ml

Witnessed & Understood by me,

Date 8/01/08

Invented by:

Recorded by:

To Page No. _____

Date