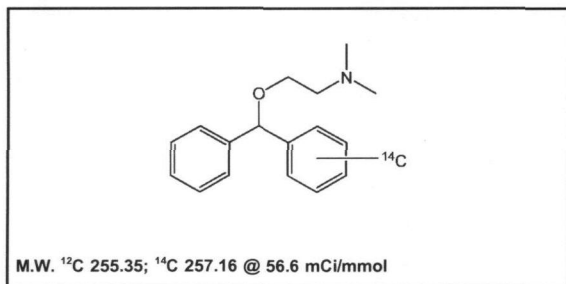




## Product Data Sheet

**MC-2158**

**Benadryl, [phenyl-<sup>14</sup>C]-**



**Lot #:** 229-009-0566-A-20090330-JH

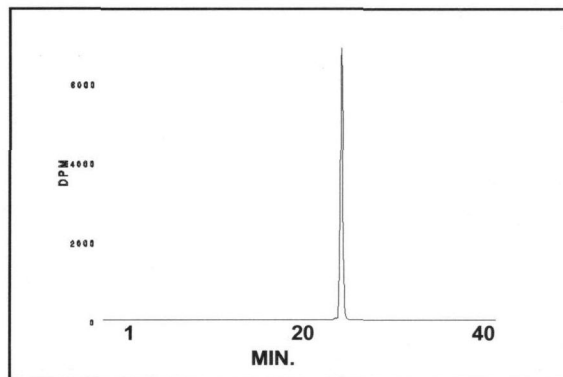
**Specific Activity:** 56.6 mCi/mmol

**Concentration:** 0.1 mCi/ml; 454.35 µg/ml

**Packaged in:** Ethanol solution

**Date of Analysis:** June 18, 2012

**Radiochemical Purity:** 99.4%



HPLC ANALYSIS LOT 229-009-0566-A-20090330-JH  
File Name: intm4638 Date and Time: 6/18/2012 8:56:49 AM  
Unit 20 Radio

Peak #	Area %	Time	Area
1	0.55	23.70670	69.13238
2	99.45	24.30670	12543.36539

Totals 100.00 12612.49777

**Storage Recommendation:** Store at -20°C.

**Product Warranty:** Stated on the reverse side of this Product Data Sheet.

**Caution:** Not For Use In Humans Or Clinical Diagnosis. This product is intended for investigational or manufacturing use only. It is pharmaceutically unrefined and is not intended for use in humans. Responsibility for its use in humans, as a diagnostic reagent, and compliance with federal laws rests solely with the purchaser.

**MC-2158**

**Benadryl, [phenyl-<sup>14</sup>C]-**

**Lot 229-009-0566-A-20090330-JH**

**A) All chromatograms were run using the HPLC method described on the Product Data Sheet.**

**Concentrations and volumes:**

Standard solution concentration was 1.0 mg/ml.

**Benadryl, [phenyl-<sup>14</sup>C]-** concentration was 0.1 mCi/ml.

Volume of standard alone injection was 15.0 µl.

Volume of **Benadryl, [phenyl-<sup>14</sup>C]-** alone injection was 2.0 µl.

Co-injection solution consisted of 2.0 µl **Benadryl, [phenyl-<sup>14</sup>C]-** + 15.0 µl standard.

Volume of co-injection was 17.0 µl.

Volume of blank injection was 2.0 µl.

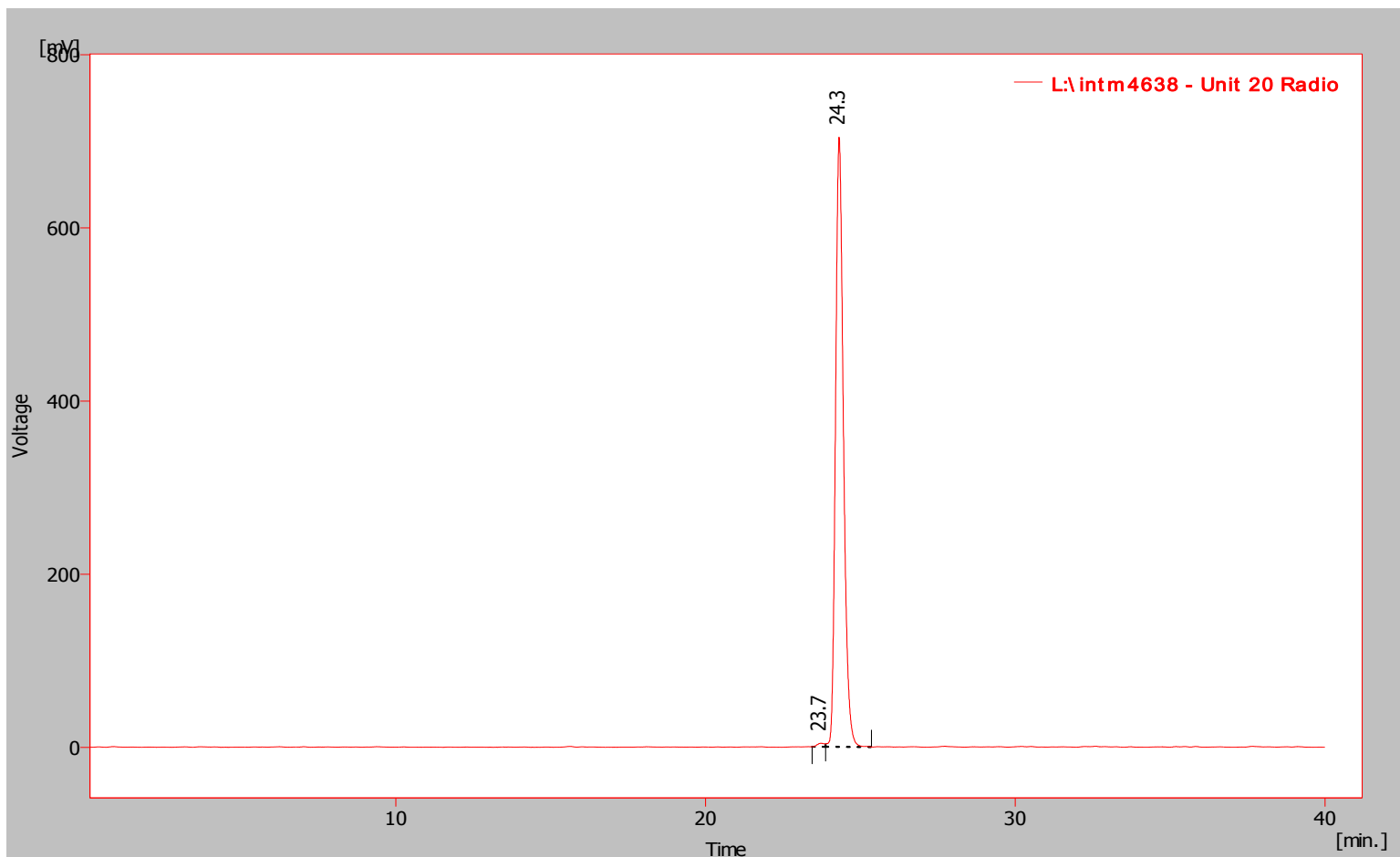
**B) Mass spectrometry – Positive mode**

**C) NMR**

**MC-2158**  
**Benadryl, [phenyl-14C]-**  
**Lot 229-009-0566-A-20090330-JH**

Chromatogram Info:

File Name	: L:\intm4638	File Created	: 11/8/2013 8:39:34 AM
Origin	: Acquired, Acquisition started 6/18/2012 8:16:50 AM	Acquired Date	: 6/18/2012 8:56:49 AM
Project	: Test	By	: Administrator
Method	: Unit_20_40_min_run	By	: Administrator
Description	: Radiochemical trace of 14C material alone	Modified	: 11/8/2013 8:50 AM
Created	: 4/12/2008 10:42 AM		
Column	:	Detection	: Radiochemical
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



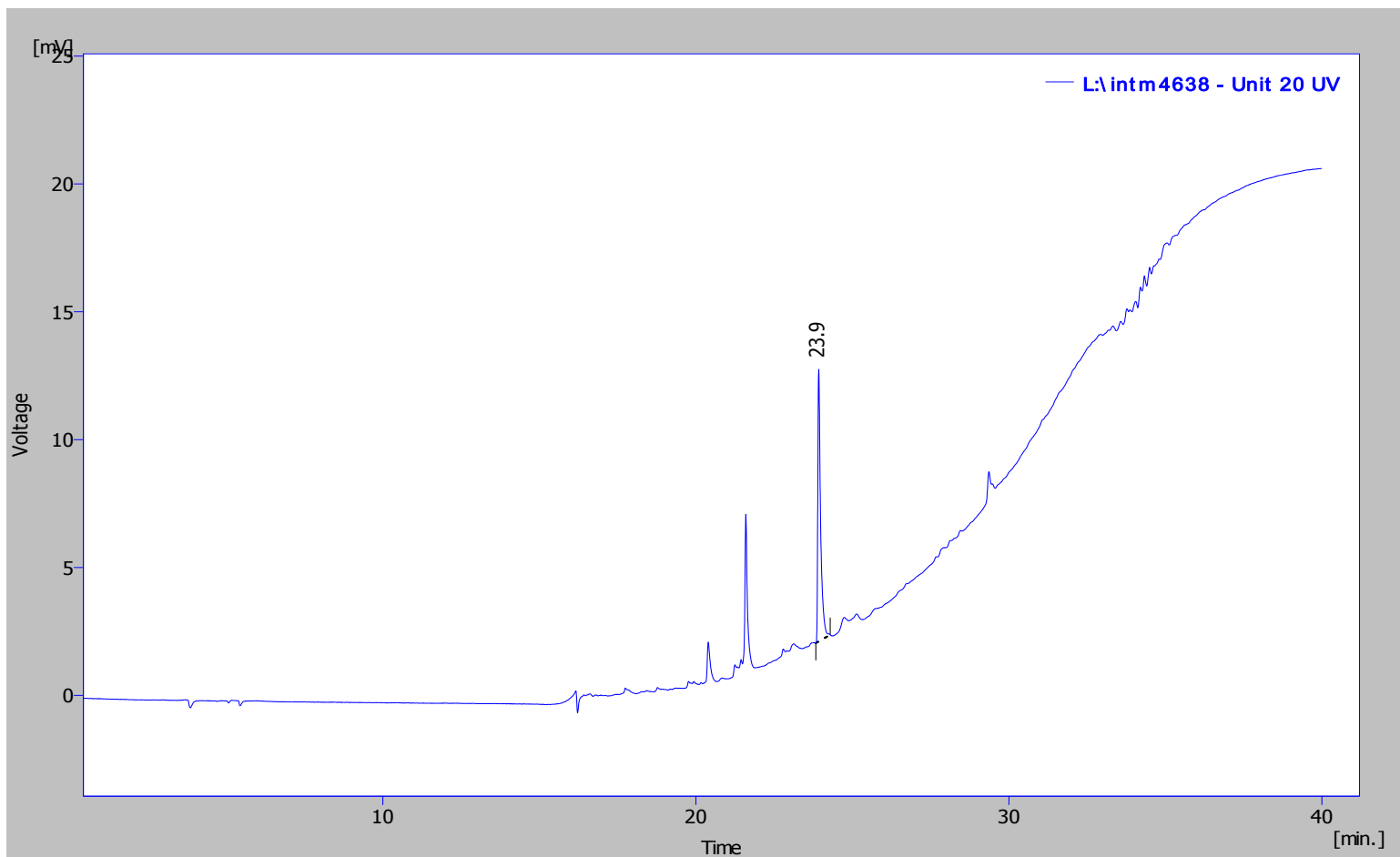
Result Table (Uncal - L:\intm4638 - Unit 20 Radio)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		23.707	0.55	69.132	4.180	0.590	35376.368
2		24.307	99.45	12543.365	704.217	99.410	41748.850
		Total	100.00	12612.498	708.397	100.000	

**MC-2158**  
**Benadryl, [phenyl-14C]-**  
**Lot 229-009-0566-A-20090330-JH**

## Chromatogram Info:

File Name	: L:\intm4638	File Created	: 11/8/2013 8:39:34 AM
Origin	: Acquired, Acquisition started 6/18/2012 8:16:50 AM	Acquired Date	: 6/18/2012 8:56:49 AM
Project	: Test	By	: Administrator
Method	: Unit_20_40_min_run	By	: Administrator
Description	: UV trace of 14C material alone	Modified	: 11/8/2013 8:51 AM
Created	: 4/12/2008 10:42 AM		
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



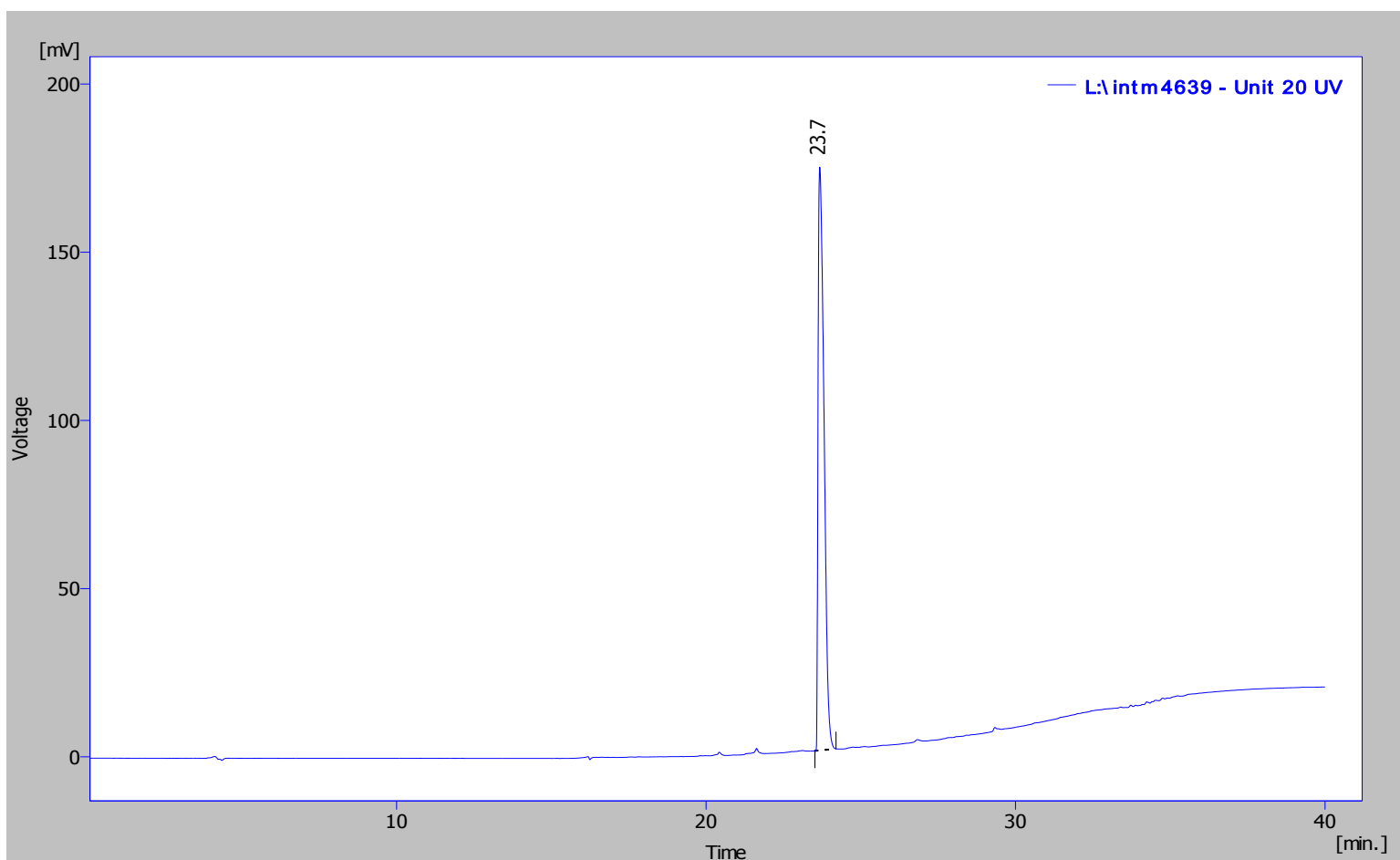
Result Table (Uncal - L:\intm4638 - Unit 20 UV)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		23.927	100.00	66.258	10.641	100.000	391551.728
		Total	100.00	66.258	10.641	100.000	

**MC-2158**  
**Benadryl, [phenyl-14C]-**  
**Lot 229-009-0566-A-20090330-JH**

Chromatogram Info:

File Name	: L:\intm4639	File Created	: 11/8/2013 8:39:34 AM
Origin	: Acquired, Acquisition started 6/18/2012 9:45:43 AM	Acquired Date	: 6/18/2012 10:25:43 AM
Project	: Test	By	: Administrator
Method	: Unit_20_40_min_run	By	: Administrator
Description	: UV trace of standard alone	Modified	: 11/8/2013 8:53 AM
Created	: 4/12/2008 10:42 AM		
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



Result Table (Uncal - L:\intm4639 - Unit 20 UV)

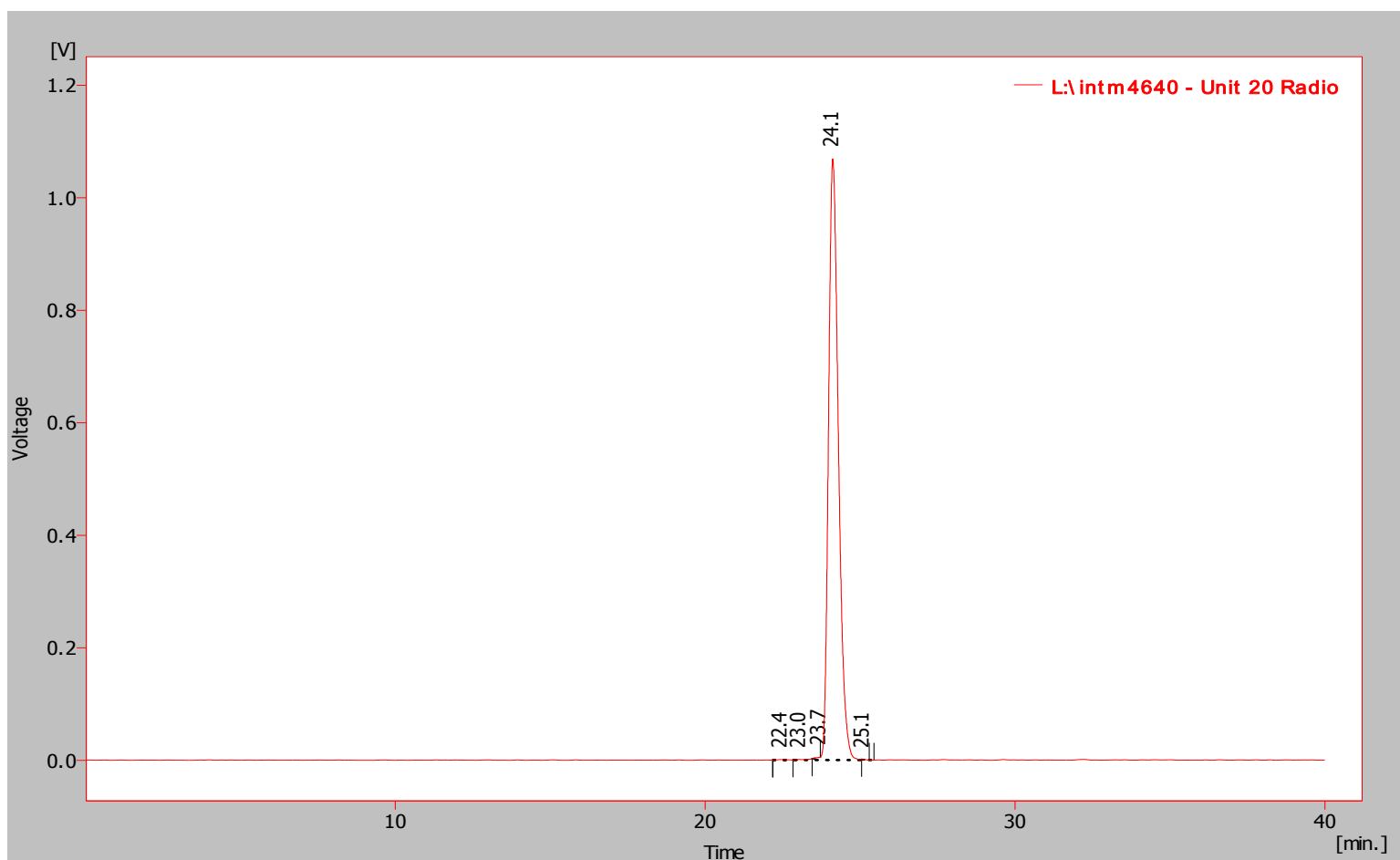
	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		23.673	100.00	2307.906	173.380	100.000	64148.016
		Total	100.00	2307.906	173.380	100.000	



**MC-2158**  
**Benadryl, [phenyl-14C]-**  
**Lot 229-009-0566-A-20090330-JH**

Chromatogram Info:

File Name	: L:\intm4640	File Created	: 11/8/2013 8:39:34 AM
Origin	: Acquired, Acquisition started 6/18/2012 10:36:12 AM	Acquired Date	: 6/18/2012 11:16:11 AM
Project	: Test	By	: Administrator
Method	: Unit_20_40_min_run	By	: Administrator
Description	: Radiochemical trace of 14C material co-injected with standard		
Created	: 4/12/2008 10:42 AM	Modified	: 11/8/2013 8:53 AM
Column	:	Detection	: Radiochemical
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



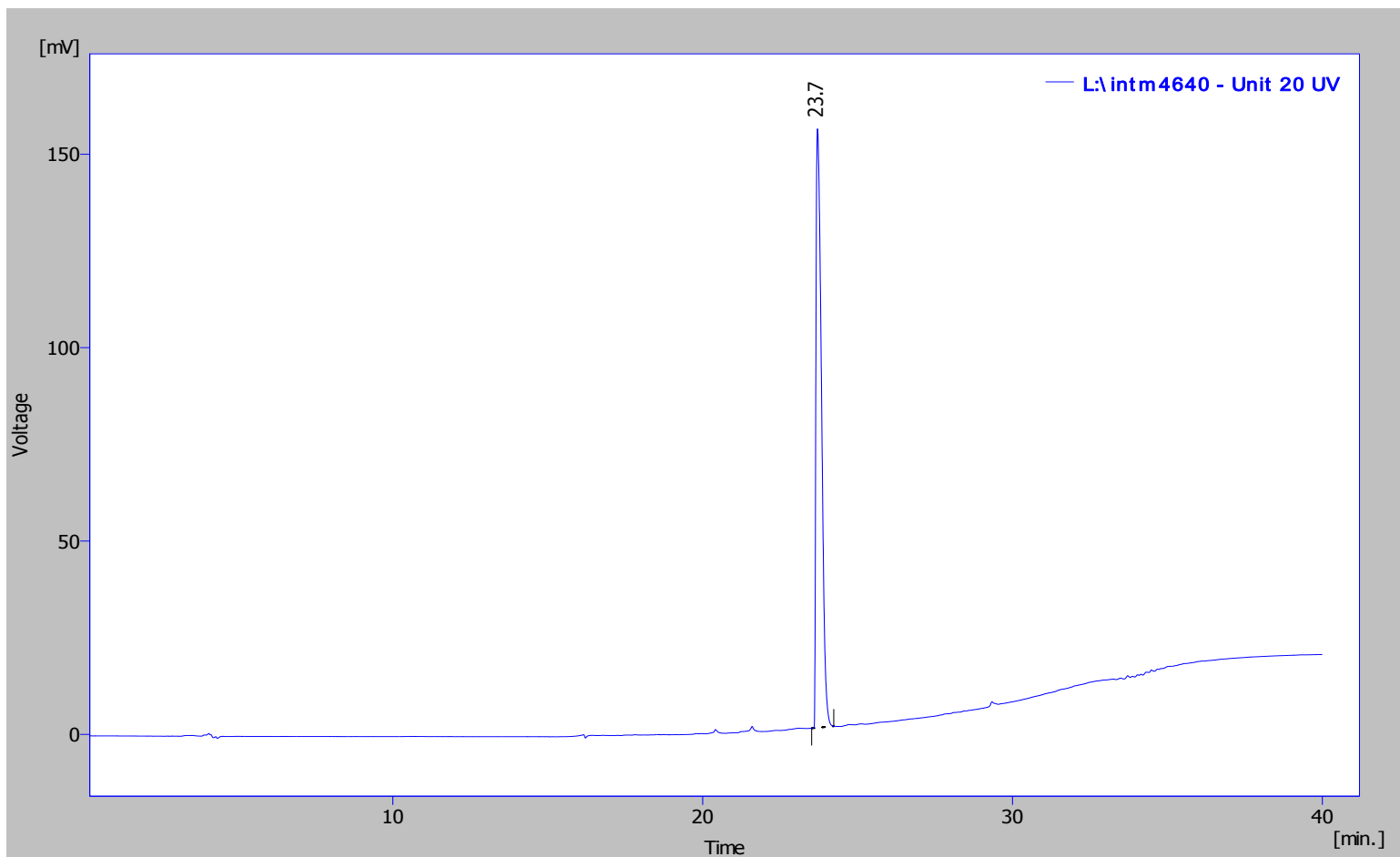
Result Table (Uncal - L:\intm4640 - Unit 20 Radio)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		22.450	0.08	17.997	0.857	0.080	17451.087
2		23.043	0.03	7.414	0.628	0.059	84424.175
3		23.697	0.03	7.163	0.562	0.052	2313883.147
4		24.117	99.85	23830.082	1068.691	99.782	27334.579
5		25.100	0.01	2.728	0.285	0.027	430895.728
		Total	100.00	23865.385	1071.023	100.000	

**MC-2158**  
**Benadryl, [phenyl-14C]-**  
**Lot 229-009-0566-A-20090330-JH**

## Chromatogram Info:

File Name	: L:\intm4640	File Created	: 11/8/2013 8:39:34 AM
Origin	: Acquired, Acquisition started 6/18/2012 10:36:12 AM	Acquired Date	: 6/18/2012 11:16:11 AM
Project	: Test	By	: Administrator
Method	: Unit_20_40_min_run	By	: Administrator
Description	: UV trace of 14C material co-injected with standard		
Created	: 4/12/2008 10:42 AM	Modified	: 11/8/2013 8:55 AM
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



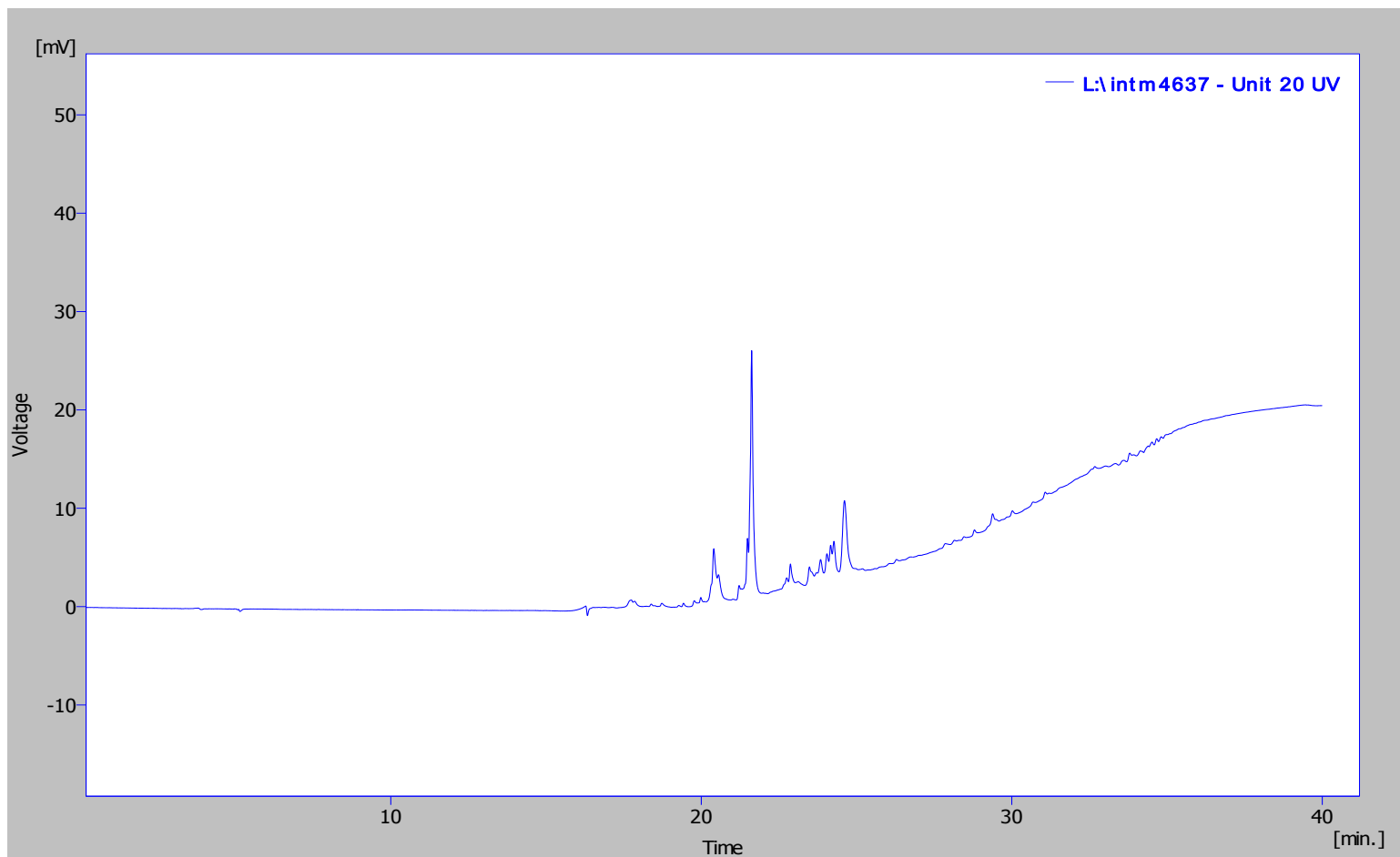
Result Table (Uncal - L:\intm4640 - Unit 20 UV)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		23.707	100.00	1927.826	154.855	100.000	75306.695
		Total	100.00	1927.826	154.855	100.000	

**MC-2158**  
**Benadryl, [phenyl-14C]-**  
**Lot 229-009-0566-A-20090330-JH**

## Chromatogram Info:

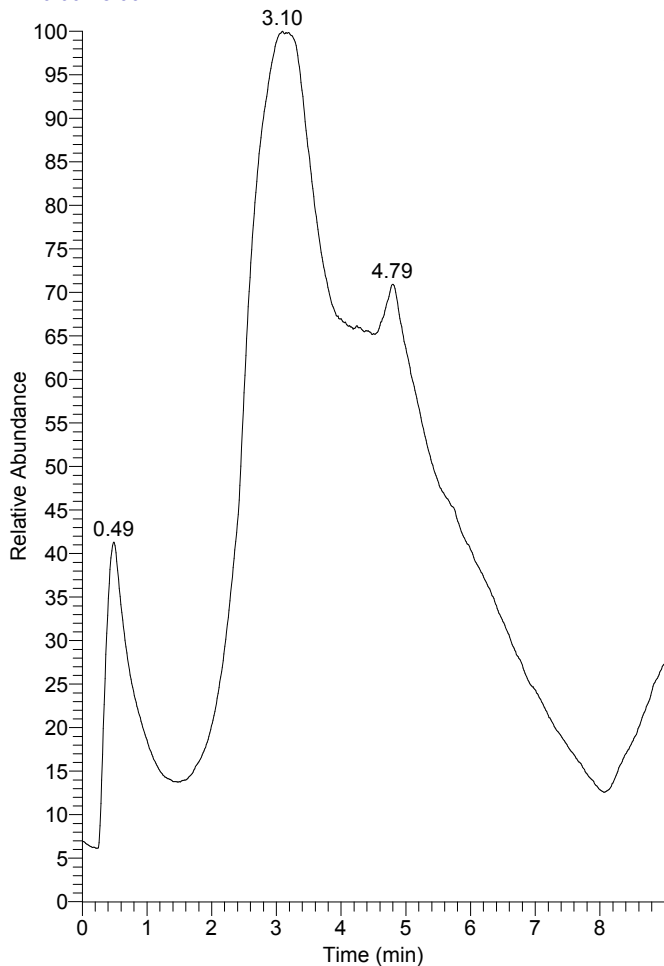
File Name	: L:\intm4637	File Created	: 11/8/2013 8:39:34 AM
Origin	: Acquired, Acquisition started 6/18/2012 7:23:32 AM	Acquired Date	: 6/18/2012 8:03:32 AM
Project	: Test	By	: Administrator
Method	: Unit_20_40_min_run	By	: Administrator
Description	: UV trace of blank injection	Modified	: 11/8/2013 8:57 AM
Created	: 4/12/2008 10:42 AM		
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	: Zoomed in		



*Result Table (Uncal - L:\intm4637 - Unit 20 UV)*

Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
No peak to report						

RT: 0.00 - 8.99



NL:  
3.45E9  
TIC F: MS  
MC2158-  
20090330-  
JH

MC2158-20090330-JH#138-680 RT: 1.78-8.80

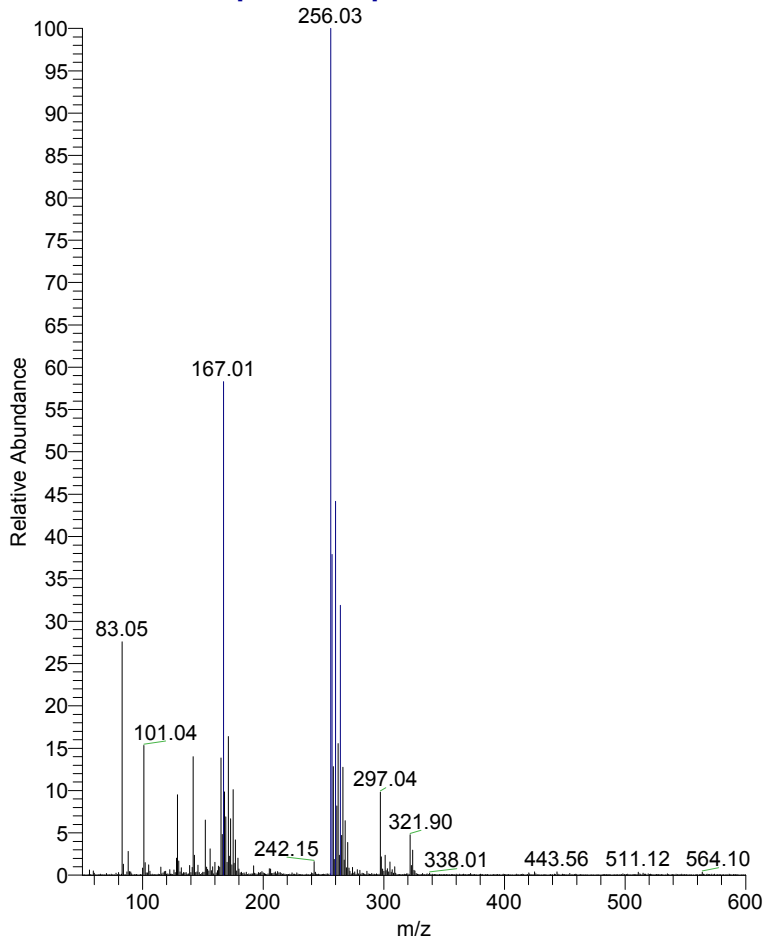
T: + c sid=-10.00 Q3MS [ 50.00-600.00]

m/z= 254.43-275.23

m/z	Intensity	Relative
255.39	345057.2	0.13
256.03	266481277.8	100.00
257.05	100875663.3	37.85
258.05	34084864.4	12.79
259.05	4865544.5	1.83
260.05	117501159.8	44.09
261.06	21661974.3	8.13
262.05	41293877.2	15.50
263.06	6221284.2	2.33
264.05	84818250.0	31.83
265.06	12479556.1	4.68
266.06	33873546.8	12.71
267.06	4656525.5	1.75
268.06	17073031.7	6.41
269.06	2291927.9	0.86
270.05	10207424.9	3.83
271.06	2154492.3	0.81
272.05	1131176.0	0.42
274.05	2404732.5	0.90
275.05	529675.2	0.20

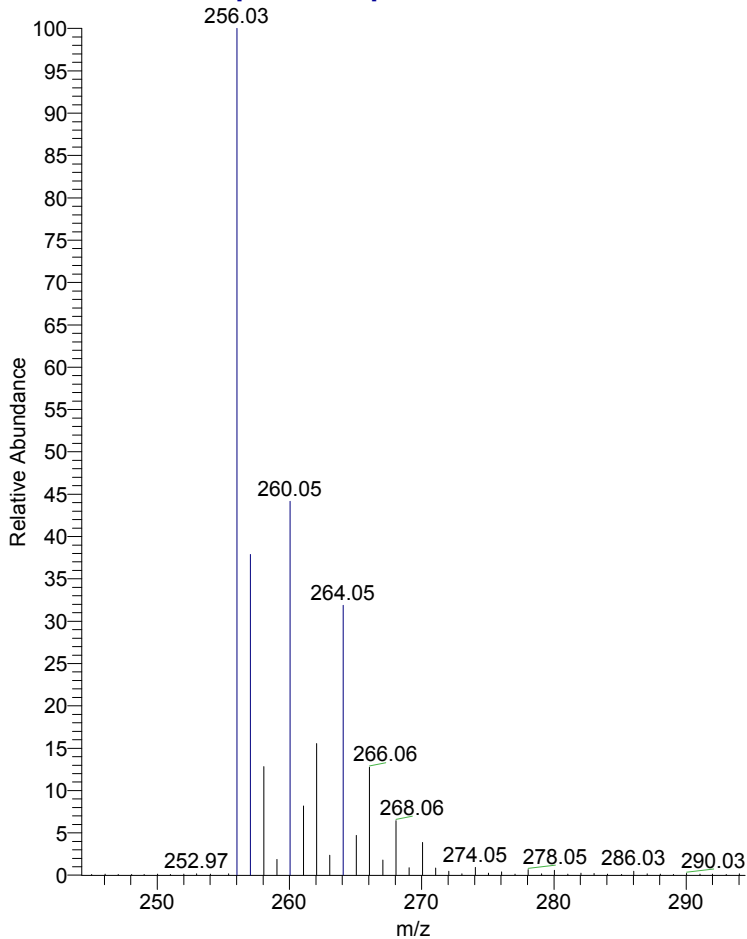
MC2158-20090330-JH #139-680 RT: 1.79-8.80 AV: 542 NL: 2.67E8

T: + c sid=-10.00 Q3MS [ 50.00-600.00]



MC2158-20090330-JH #139-680 RT: 1.79-8.80 AV: 542 NL: 2.67E8

T: + c sid=-10.00 Q3MS [ 50.00-600.00]



MC2158 1H NMR in MeOD  
Batch 20090330-JH



7.436  
7.431  
7.407  
7.404  
7.390  
7.386  
7.364  
7.339  
7.319  
7.314  
7.307  
7.300  
7.291

3.796  
3.780  
3.763  
3.450  
3.433  
3.417  
2.913

5.548

NAME MC2158-20090330-JH  
EXPNO 2  
PROCNO 1  
Date\_ 20120709  
Time\_ 10.30  
INSTRUM spect  
PROBHD 5 mm DUX 3H-1H  
PULPROG zg30  
TD 65536  
SOLVENT MeOD  
NS 512  
DS 2  
SWH 6172.839 Hz  
FIDRES 0.094190 Hz  
AQ 5.3084660 sec  
RG 4  
DW 81.000 usec  
DE 6.50 usec  
TE 300.0 K  
D1 1.00000000 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 7.25 usec  
PL1 0.00 dB  
SFO1 300.1318534 MHz  
SI 32768  
SF 300.1300000 MHz  
WDW no  
SSB 0  
LB 0.00 Hz  
GB 0  
PC 1.00

