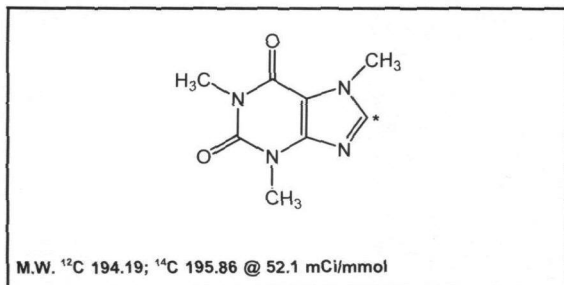




Product Data Sheet

MC-499

Caffeine, [8-¹⁴C]-



Lot #: 195-132-0521-A-20100630-MW

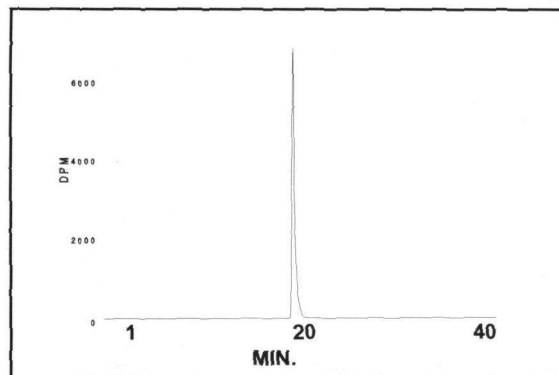
Specific Activity: 52.1 mCi/mmol

Concentration: 0.1 mCi/ml; 375.93 µg/ml

Packaged in: Ethanol solution under argon

Date of Analysis: August 12, 2010

Radiochemical Purity: 99.9%



HPLC ANALYSIS LOT 195-132-0521-A-20100630-MW
File Name: int20656 Date and Time: 8/12/2010 1:33:49 PM
Unit 2 Radio

Peak #	Area %	Time	Area
1	100.00	19.30000	13357.31982
2	0.00	21.19000	0.41644
Totals	100.00		13357.73626

Stability and Storage Recommendation: The rate of decomposition is approximately 0.1%/month for the first six months after purification when stored 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-499

Caffeine, [8-¹⁴C]-

Lot 195-132-0521-A-20100630-MW

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

Concentrations and volumes:

Standard solution concentration was 0.5 mg/ml.

Caffeine, [8-¹⁴C]- concentration was 50.0 µCi/ml.

Volume of standard alone injection was 2.0 µl.

Volume of **Caffeine, [8-¹⁴C]-** alone injection was 2.0 µl.

Co-injection solution consisted of 2.0 µl **Caffeine, [8-¹⁴C]-** + 2.0 µl standard.

Volume of co-injection was 4.0 µl.

Volume of blank injection was 2.0 µl.

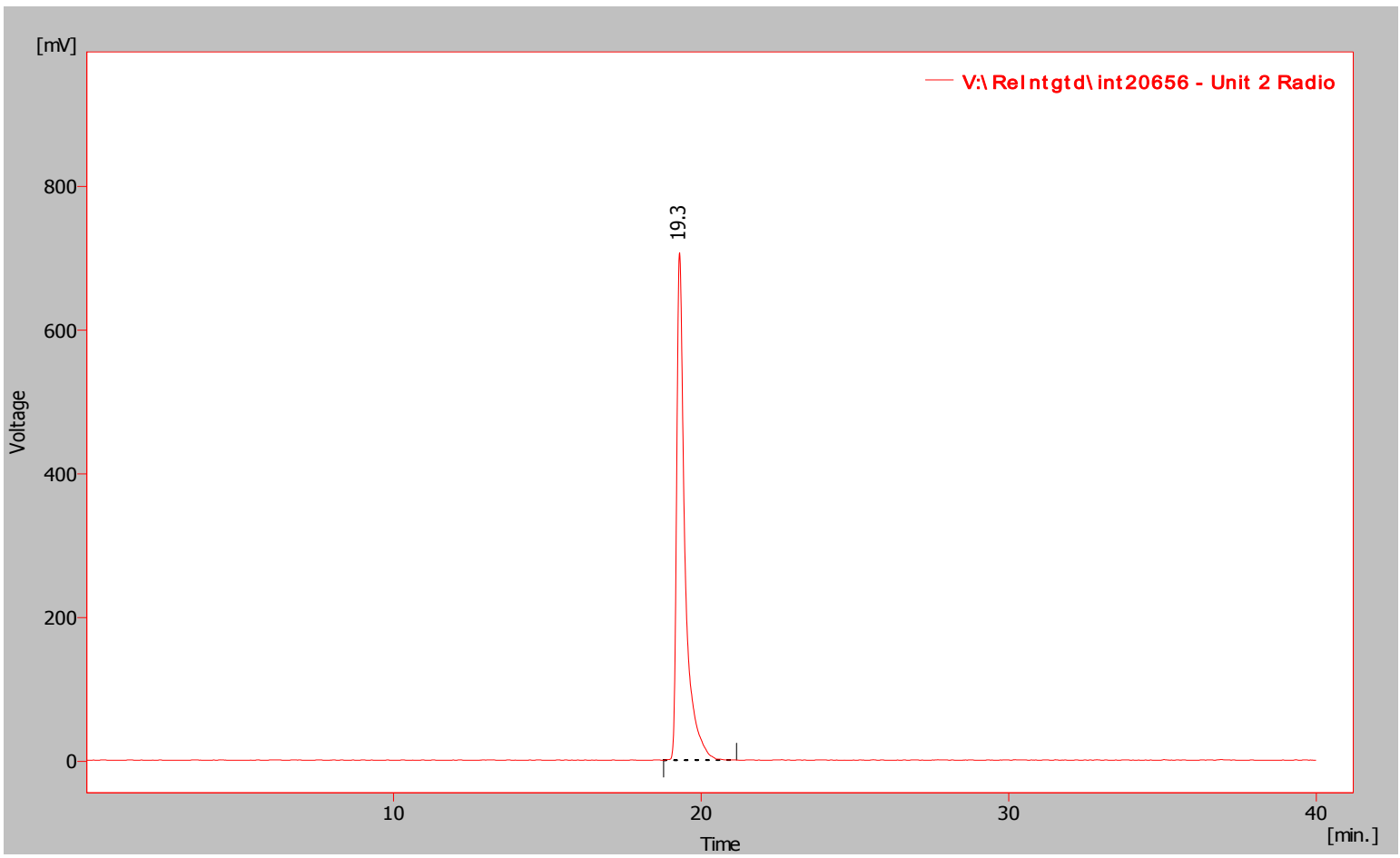
B) Mass spectrometry – Positive mode

C) NMR

MC-499
Caffeine, [8-14C]-
Lot 195-132-0521-A-20100630-MW

Chromatogram Info:

File Name	: V:\ReIntgtd\int20656	File Created	: 10/30/2013 12:19:57 PM
Origin	: Acquired, Acquisition started 8/12/2010 12:53:49 PM	Acquired Date	: 8/12/2010 1:33:49 PM
Project	: Test	By	: Administrator
Method	: Unit2-40minrun	By	: Administrator
Description	: Radiochemical trace of 14C material alone	Modified	: 10/30/2013 12:52 PM
Created	: 6/16/2007 8:19 AM		
Column	:	Detection	: Radiochemical
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



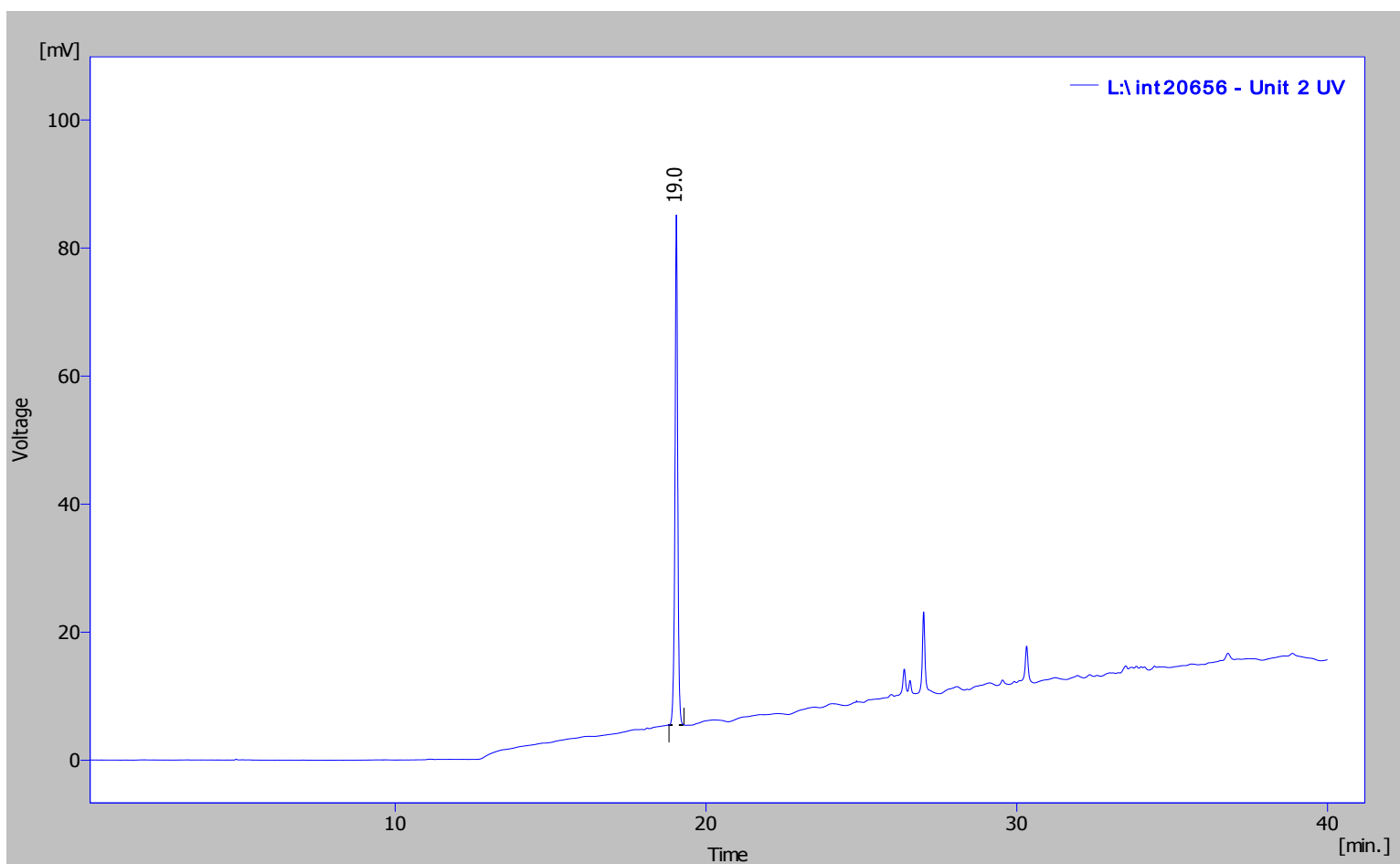
Result Table (Uncal - V:\ReIntgtd\int20656 - Unit 2 Radio)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		19.300	100.00	13338.087	706.235	100.000	30526.547
		Total	100.00	13338.087	706.235	100.000	

MC-499
Caffeine, [8-14C]-
Lot 195-132-0521-A-20100630-MW

Chromatogram Info:

File Name	: L:\int20656	File Created	: 10/30/2013 11:56:24 AM
Origin	: Acquired, Acquisition started 8/12/2010 12:53:49 PM	Acquired Date	: 8/12/2010 1:33:49 PM
Project	: Test	By	: Administrator
Method	: Unit2-40minrun	By	: Administrator
Description	: UV trace of 14C material alone	Modified	: 10/30/2013 12:08 PM
Created	: 6/16/2007 8:19 AM		
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



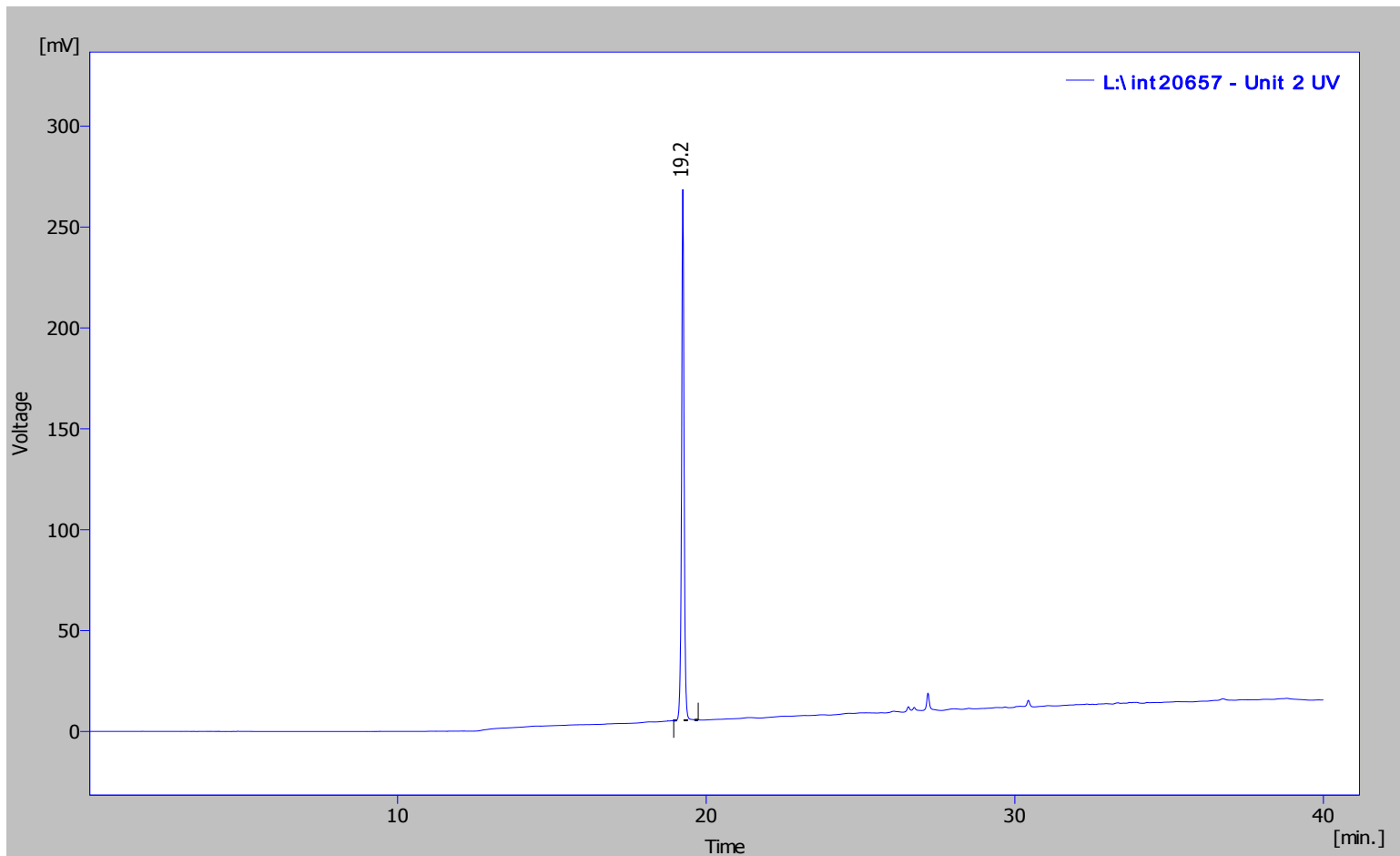
Result Table (Uncal - L:\int20656 - Unit 2 UV)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		19.047	100.00	488.733	79.678	100.000	248120.535
		Total	100.00	488.733	79.678	100.000	

MC-499
Caffeine, [8-14C]-
Lot 195-132-0521-A-20100630-MW

Chromatogram Info:

File Name	: L:\int20657	File Created	: 10/30/2013 11:56:24 AM
Origin	: Acquired, Acquisition started 8/12/2010 2:01:23 PM	Acquired Date	: 8/12/2010 2:41:22 PM
Project	: Test	By	: Administrator
Method	: Unit2-40minrun	By	: Administrator
Description	: UV trace of standard material alone	Modified	: 10/30/2013 12:09 PM
Created	: 6/16/2007 8:19 AM		
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



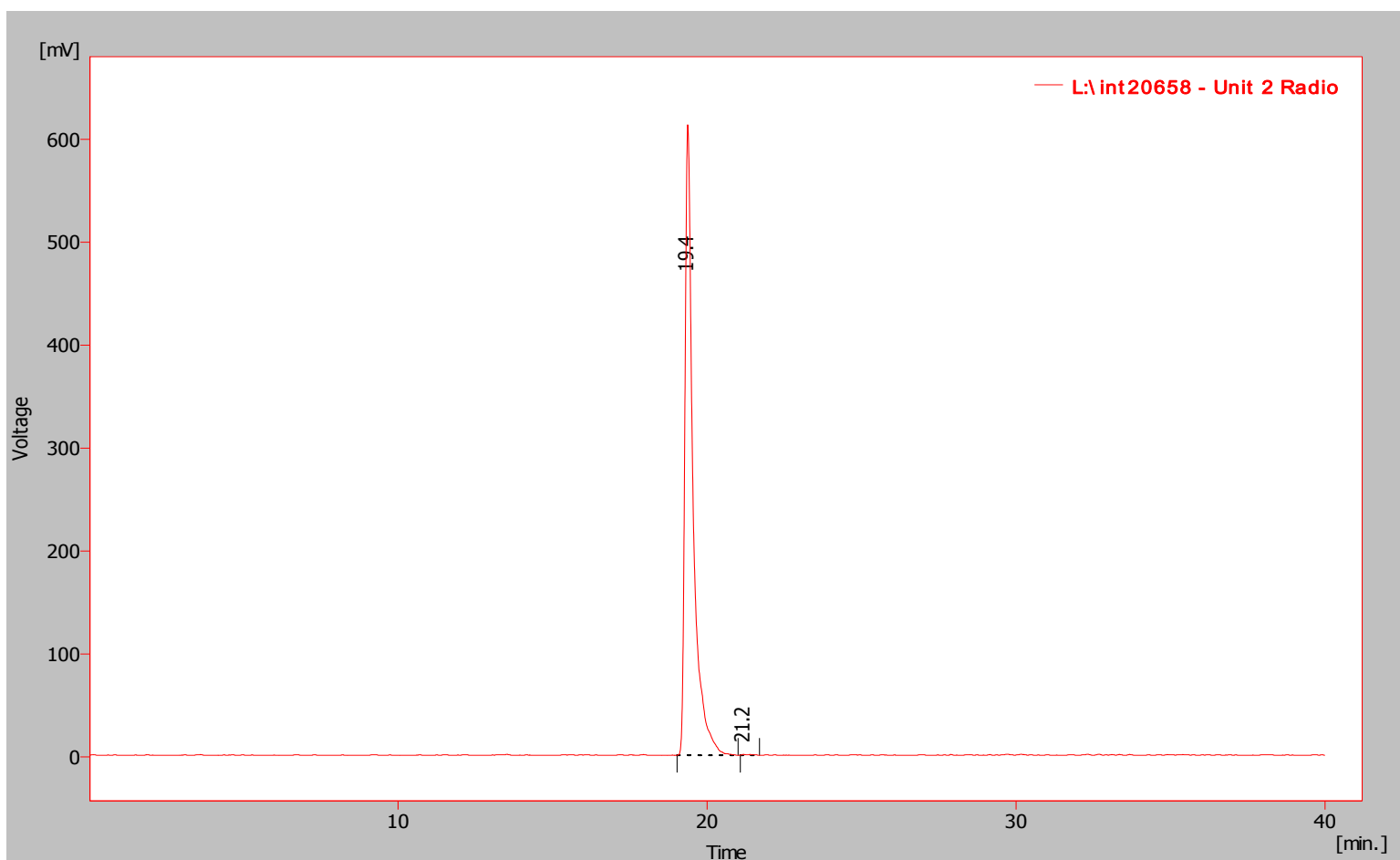
Result Table (Uncal - L:\int20657 - Unit 2 UV)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		19.243	100.00	1488.924	263.133	100.000	295415.217
		Total	100.00	1488.924	263.133	100.000	

MC-499
Caffeine, [8-14C]-
Lot 195-132-0521-A-20100630-MW

Chromatogram Info:

File Name	: L:\int20658	File Created	: 10/30/2013 11:56:24 AM
Origin	: Acquired, Acquisition started 8/12/2010 3:14:29 PM	Acquired Date	: 8/12/2010 3:54:29 PM
Project	: Test	By	: Administrator
Method	: Unit2-40minrun	By	: Administrator
Description	: Radiochemical trace of 14C material co-injected with standard	Modified	: 10/30/2013 12:11 PM
Created	: 6/16/2007 8:19 AM		
Column	:	Detection	: Radiochemical
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



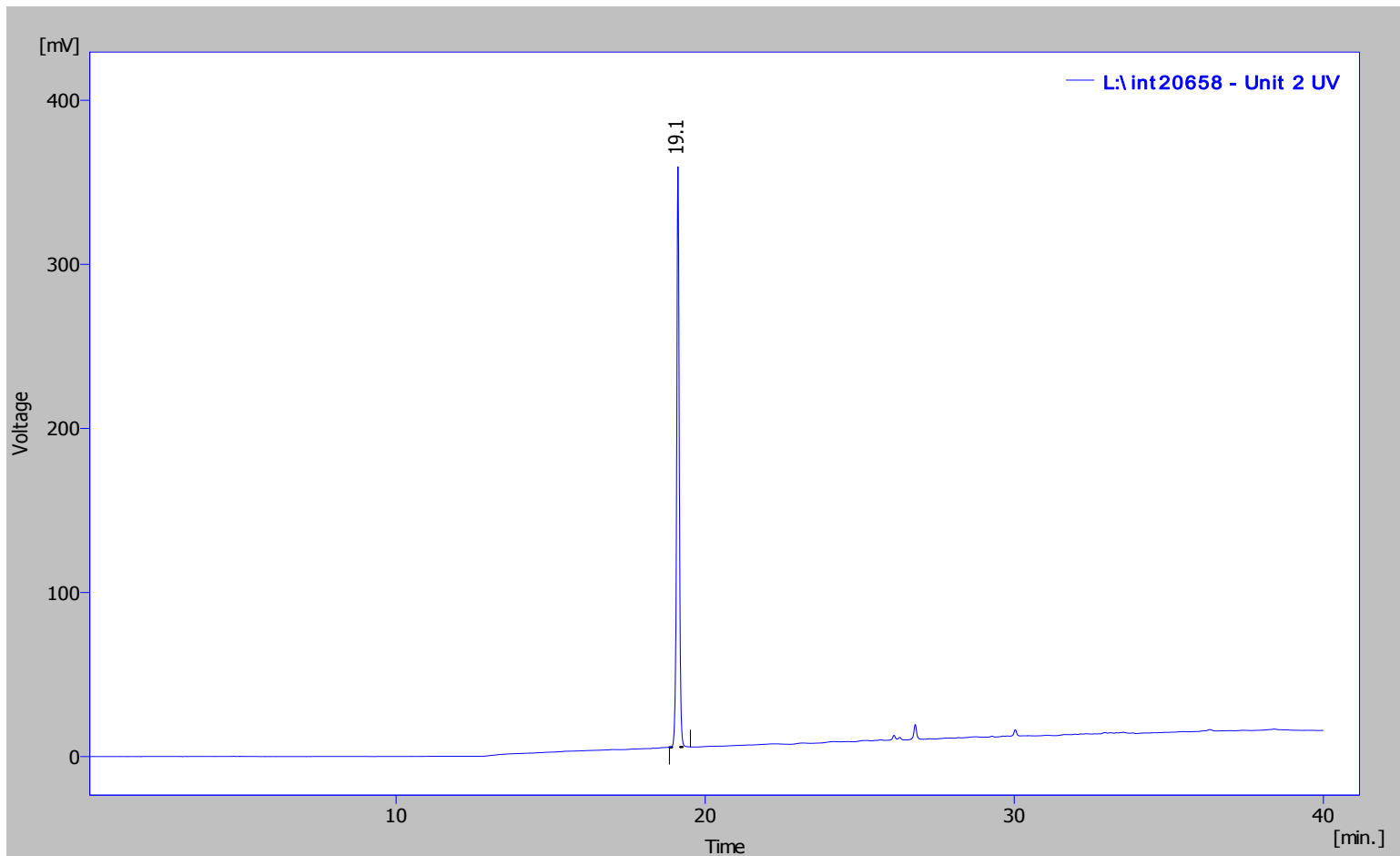
Result Table (Uncal - L:\int20658 - Unit 2 Radio)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		19.373	99.84	11317.343	612.532	99.846	34174.135
2		21.197	0.16	18.105	0.947	0.154	11109.915
		Total	100.00	11335.448	613.479	100.000	

MC-499
Caffeine, [8-14C]-
Lot 195-132-0521-A-20100630-MW

Chromatogram Info:

File Name	: L:\int20658	File Created	: 10/30/2013 11:56:24 AM
Origin	: Acquired, Acquisition started 8/12/2010 3:14:29 PM	Acquired Date	: 8/12/2010 3:54:29 PM
Project	: Test	By	: Administrator
Method	: Unit2-40minrun	By	: Administrator
Description	: UV trace of 14C material co-injected with standard	Modified	: 10/30/2013 12:12 PM
Created	: 6/16/2007 8:19 AM		
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



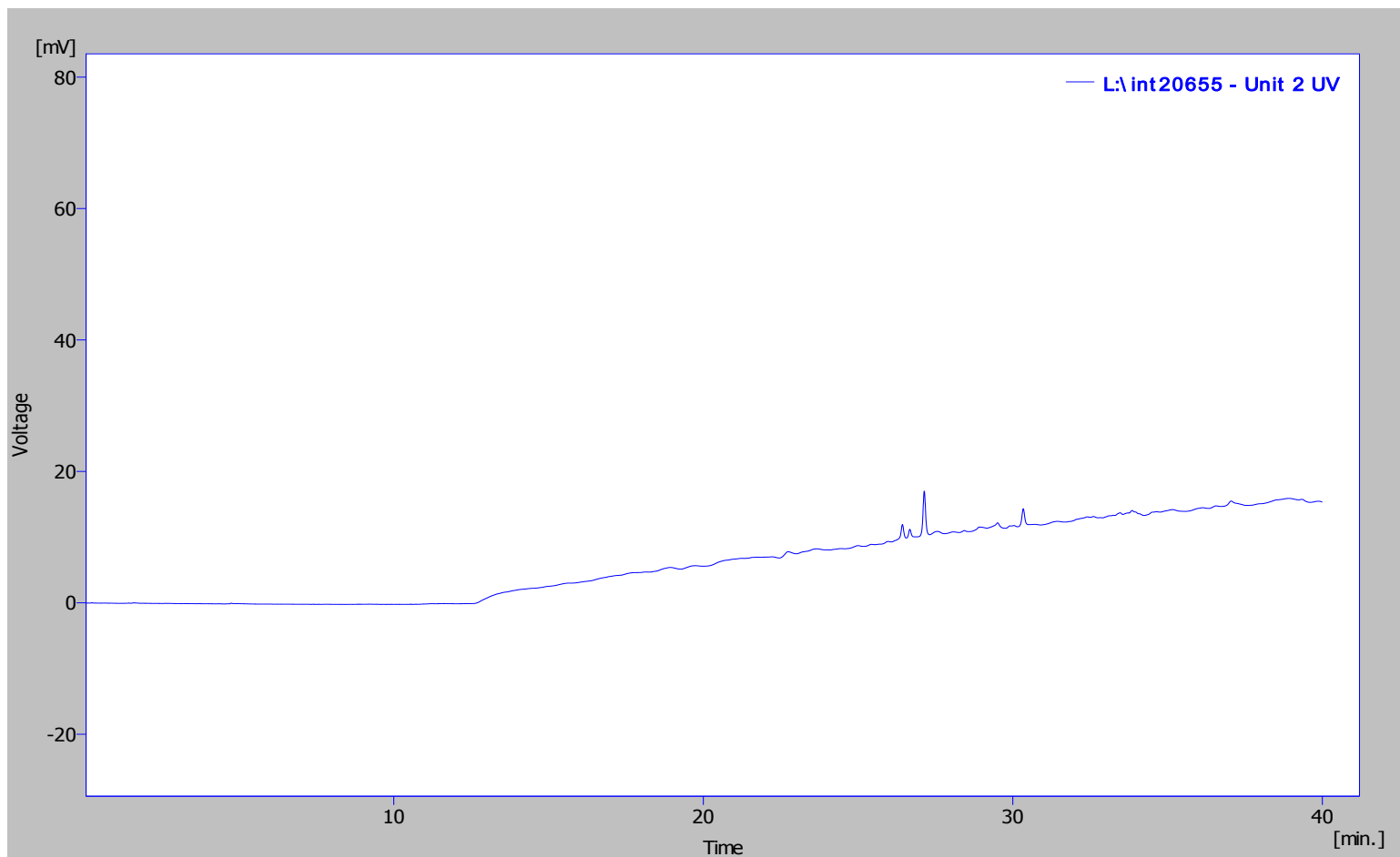
Result Table (Uncal - L:\int20658 - Unit 2 UV)

	Compound Name	Reten. Time [min]	Area [%]	Area [mV.s]	Height [mV]	Height [%]	Efficiency [th.pl]
1		19.120	100.00	2090.703	353.799	100.000	250034.837
		Total	100.00	2090.703	353.799	100.000	

MC-499
Caffeine, [8-14C]-
Lot 195-132-0521-A-20100630-MW

Chromatogram Info:

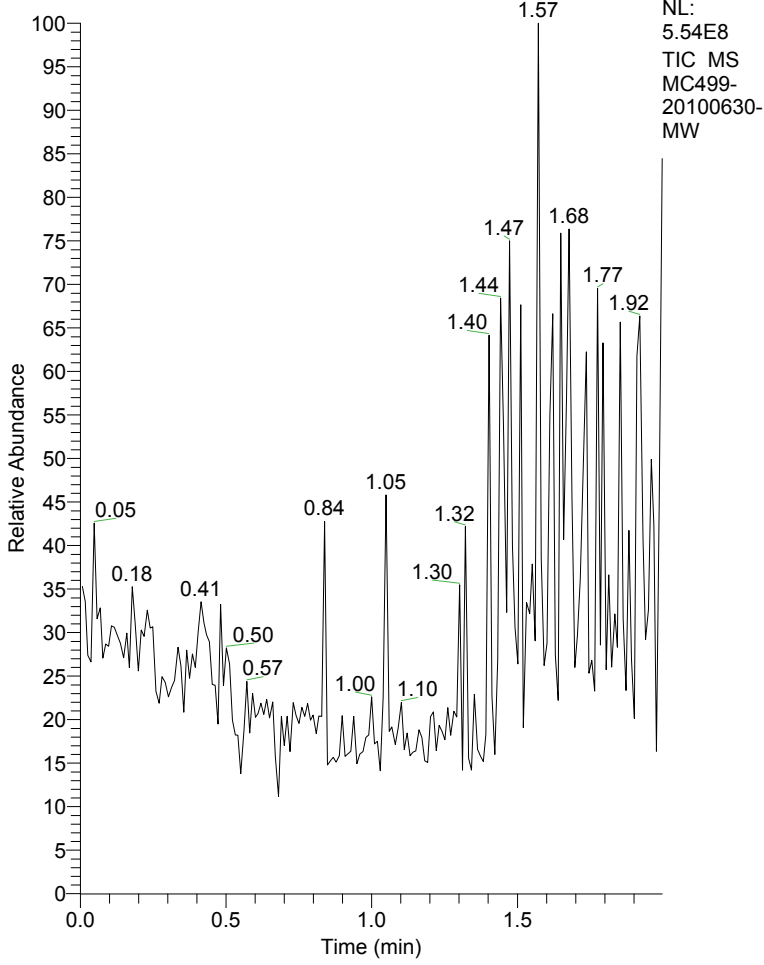
File Name	: L:\int20655	File Created	: 10/30/2013 11:56:24 AM
Origin	: Acquired, Acquisition started 8/12/2010 11:27:39 AM	Acquired Date	: 8/12/2010 12:07:38 PM
Project	: Test	By	: Administrator
Method	: Unit2-40minrun	By	: Administrator
Description	: UV trace of blank injection	Modified	: 10/30/2013 12:12 PM
Created	: 6/16/2007 8:19 AM		
Column	:	Detection	: UV 254nm
Mobile Phase	:	Temperature	:
Flow Rate	:	Pressure	:
Note	:		



Result Table (Uncal - L:\int20655 - Unit 2 UV)

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

RT: 0.00 - 2.00



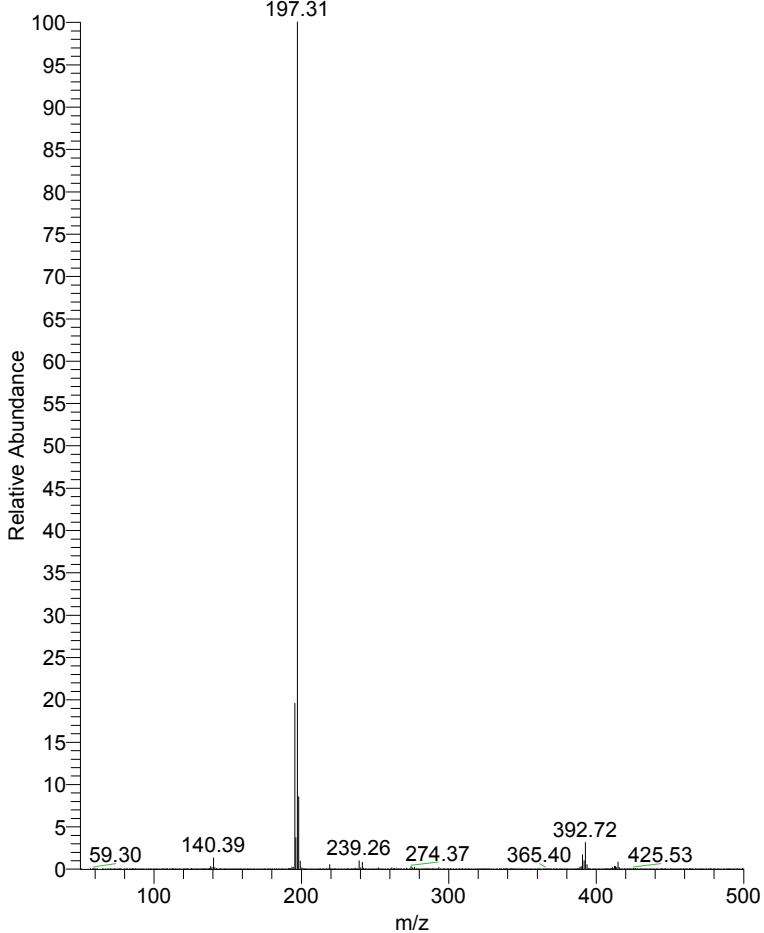
MC499-20100630-MW#1-201 RT: 0.01-2.00 AV:

T: + c NSI Full ms [50.00-500.00]

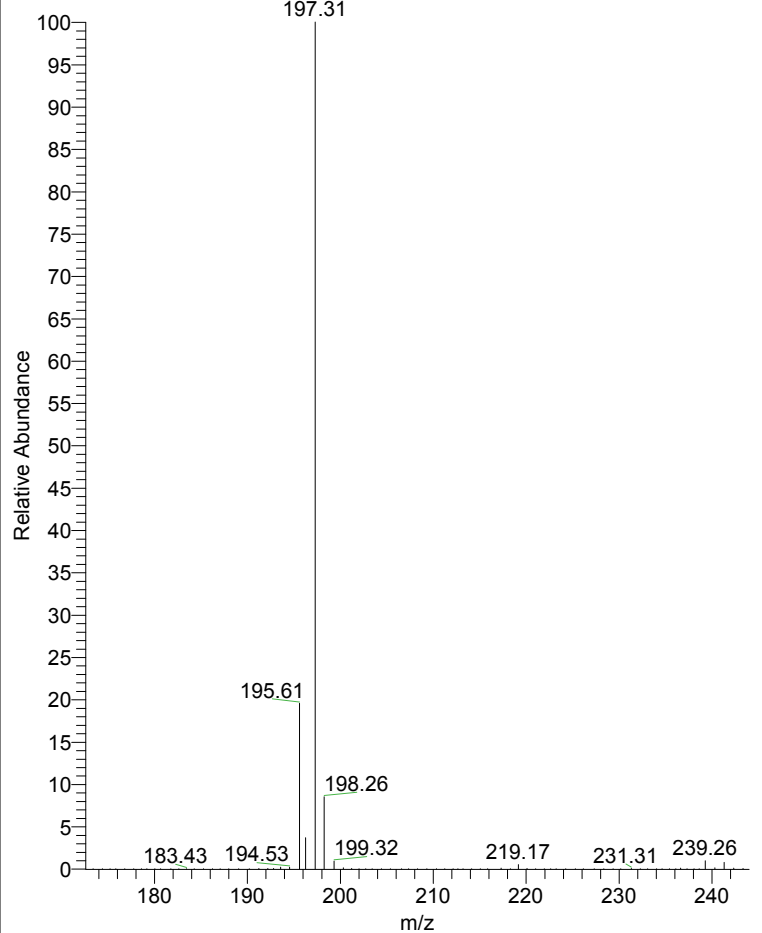
m/z= 185.88-213.69

m/z	Intensity	Relative
194.53	211409.1	0.21
195.61	19979599.3	19.57
196.26	3771750.2	3.70
197.31	102075397.7	100.00
198.26	8715329.6	8.54
199.32	926358.3	0.91
200.32	149584.1	0.15
201.23	55319.7	0.05
201.99	25989.6	0.03
202.72	14417.8	0.01
203.42	13290.9	0.01
209.30	23770.8	0.02
211.23	14336.6	0.01
212.13	20635.2	0.02
213.18	19086.8	0.02

MC499-20100630-MW #1-201 RT: 0.01-2.00 AV: 201 NL: 1.02E8
T: + c NSI Full ms [50.00-500.00]



MC499-20100630-MW #1-201 RT: 0.01-2.00 AV: 201 NL: 1.02E8
T: + c NSI Full ms [50.00-500.00]



MC499 1H NMR in CDCl3
Batch 20100630-MW



7.508

3.998

3.591

3.414

NAME MC499-20100630-MW
EXPNO 1
PROCNO 1
Date_ 20100818
Time 11.21
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 512
DS 2
SWH 8278.146 Hz
FIDRES 0.126314 Hz
AQ 3.9584243 sec
RG 4
DW 60.400 usec
DE 6.50 usec
TE 295.1 K
D1 1.00000000 sec
TD0 1
===== CHANNEL f1 =====
NUC1 1H
P1 14.50 usec
PL1 -0.70 dB
PL1W 10.03411102 W
SF01 400.1324710 MHz
SI 32768
SF 400.1300062 MHz
WDW no
SSB 0
LB 0.00 Hz
GB 0
PC 1.00

