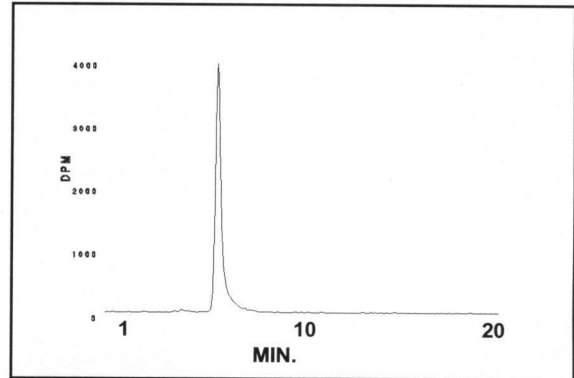
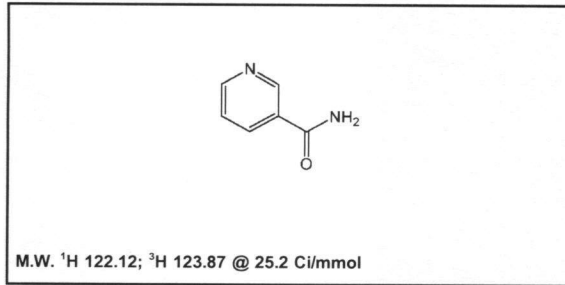




# Product Data Sheet

**MT-1937**

**Nicotinamide, [<sup>3</sup>H]-**



**Lot #:** 217-006-0252-A-20110324-TN

**Specific Activity:** 25.2 Ci/mmol

**Concentration:** 1.0 mCi/ml; 4.92 µg/ml

**Packaged in:** Ethanol : water (1 : 1) solution

**Date of Analysis:** May 20, 2011

**Radiochemical Purity:** 98.0%

HPLC ANALYSIS LOT 217-006-0252-A-20110324-TN  
File Name: int21148 Date and Time: 5/20/2011 12:12:04 P  
Unit 2 Radio

| Peak # | Area % | Time    | Area       |
|--------|--------|---------|------------|
| 1      | 1.51   | 3.97170 | 136.60432  |
| 2      | 0.18   | 5.00500 | 16.42914   |
| 3      | 98.07  | 5.75670 | 8892.71732 |
| 4      | 0.09   | 6.38500 | 8.44092    |
| 5      | 0.15   | 7.15670 | 13.16729   |
| Totals | 100.00 |         | 9067.35899 |

**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.

**MT-1937**

**Nicotinamide, [6-<sup>3</sup>H(N)]-**

**Lot 217-006-0252-A-20110324-TN**

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

**Concentrations and volumes:**

Standard solution concentration was 2.0 mg/ml.

**Nicotinamide, [6-<sup>3</sup>H(N)]-** concentration was 0.1 mCi/ml.

Volume of standard alone injection was 1.0 µl.

Volume of **Nicotinamide, [6-<sup>3</sup>H(N)]-** alone injection was 1.0 µl.

Co-injection solution consisted of 1.0 µl **Nicotinamide, [6-<sup>3</sup>H(N)]-** + 1.0 µl standard.

Volume of co-injection was 2.0 µl.

Volume of blank injection was 1.0 µl.

**B) Mass spectrometry - Positive mode**

**C) NMR**

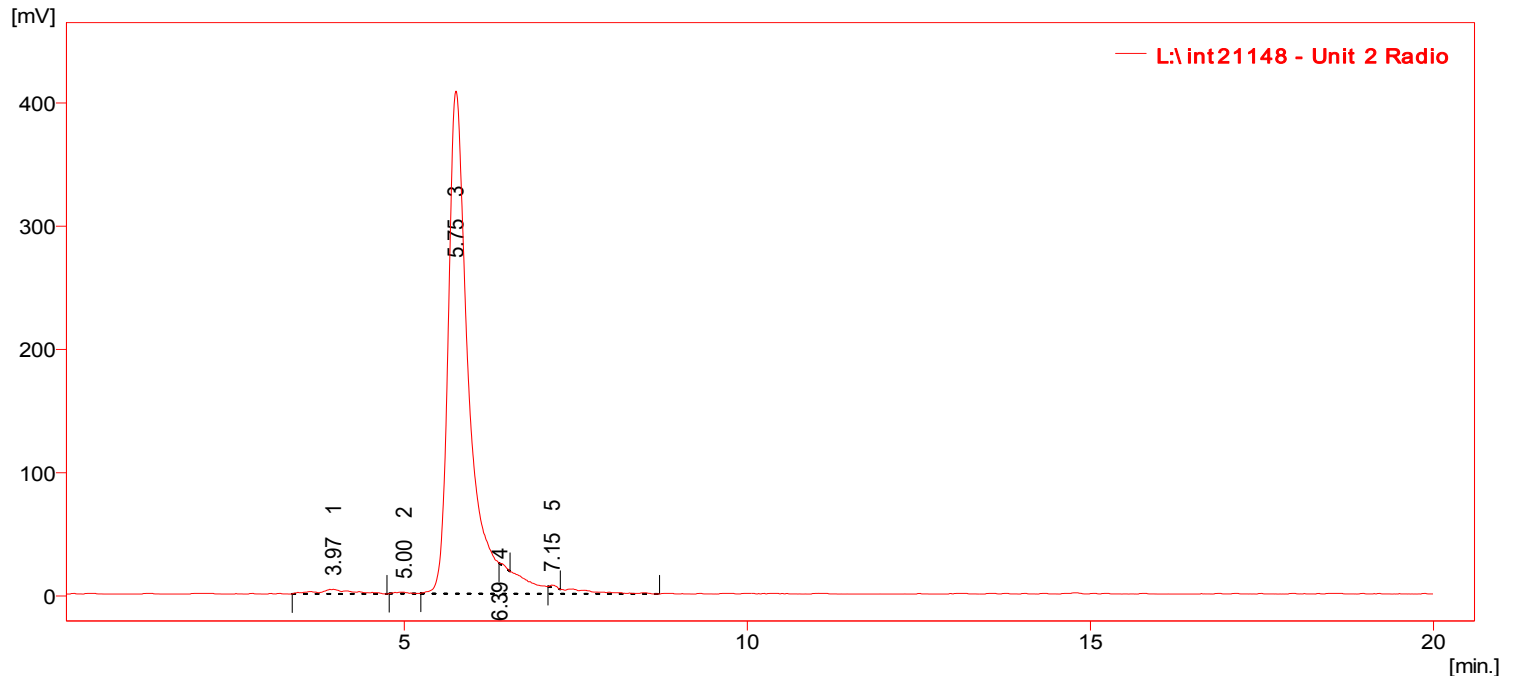
**MT-1937**  
**Nicotinamide, [6-3H(N)]-**  
**Lot 217-006-0252-A-20110324-TN**

## Chromatogram Info:

File Name : L:\int21148 File Created : 4/16/2014 2:09:29 PM  
 Origin : Acquired, Acquisition started 5/20/2011 11:52:04 AM Acquired Date : 5/20/2011 12:12:04 PM  
 Project : Work1 By : Administrator

Method : unit2-20minrun By : Administrator  
 Description : Radiochemical trace of 3H material alone  
 Created : 8/8/2007 9:12 AM Modified : 4/16/2014 2:20 PM

Column : Detection : Radiochemical  
 Mobile Phase : Temperature :  
 Flow Rate : Pressure :  
 Note :



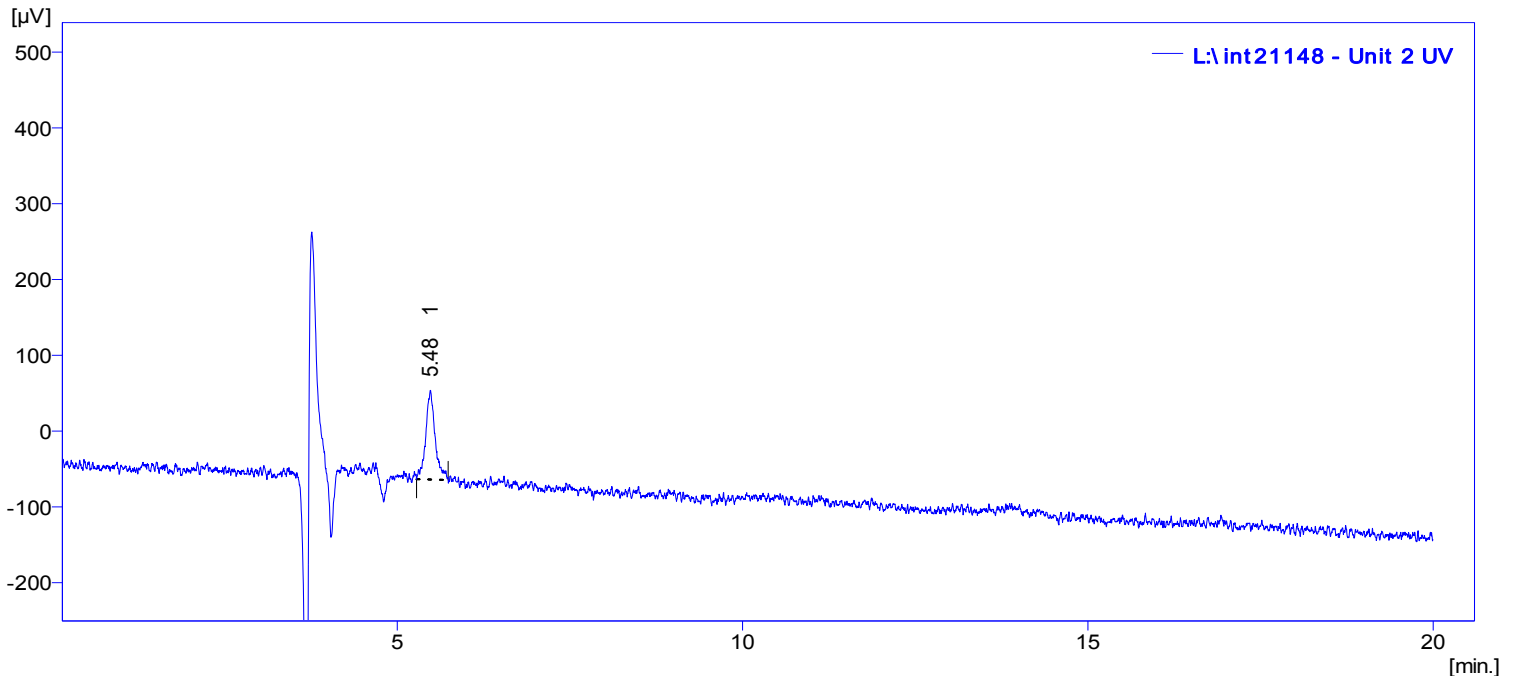
Result Table (Uncal - L:\int21148 - Unit 2 Radio)

| Compound Name | Reten. Time [min] | Area [mV.s] | Height [mV] | Area [%] | Height [%] | W05 [min] | Efficiency [th.pl] | Eff/I [t.p./m] | Resolution [-] | Symmetry/Tailing [-] | Response Factor |
|---------------|-------------------|-------------|-------------|----------|------------|-----------|--------------------|----------------|----------------|----------------------|-----------------|
| 1             | 3.97              | 135.996     | 3.86        | 1.50     | 0.9        | 0.41      | 510                | 10204          |                | 1.09                 |                 |
| 2             | 5.00              | 16.011      | 1.17        | 0.18     | 0.3        | 0.23      | 2696               | 53914          | 1.91           | 1.06                 |                 |
| 3             | 5.75              | 8890.225    | 407.79      | 98.08    | 98.2       | 0.28      | 2339               | 46780          | 1.75           | 3.34                 |                 |
| 4             | 6.39              | 9.006       | 0.30        | 0.10     | 0.1        | 0.03      | 203801             | 4076026        | 2.41           | 6.00                 |                 |
| 5             | 7.15              | 13.357      | 1.99        | 0.15     | 0.5        | 0.10      | 28348              | 566966         | 6.73           | 1.50                 |                 |
| Total         |                   | 9064.594    | 415.12      | 100.00   | 100.0      |           |                    |                |                |                      |                 |

**MT-1937**  
**Nicotinamide, [6-3H(N)]-**  
**Lot 217-006-0252-A-20110324-TN**

Chromatogram Info:

|              |   |               |                         |
|--------------|---|---------------|-------------------------|
| File Name    | : L:\int21148   | File Created  | : 4/16/2014 2:09:29 PM  |
| Origin       | : Acquired, Acquisition started 5/20/2011 11:52:04 AM | Acquired Date | : 5/20/2011 12:12:04 PM |
| Project      | : Work1   | By            | : Administrator         |
| Method       | : unit2-20minrun                                      | By            | : Administrator         |
| Description  | : UV trace of 3H material alone                       |               |                         |
| Created      | : 8/8/2007 9:12 AM                                    | Modified      | : 4/16/2014 2:19 PM     |
| Column       | :   | Detection     | : UV 259nm              |
| Mobile Phase | :   | Temperature   | :                       |
| Flow Rate    | :   | Pressure      | :                       |
| Note         | :   |               |                         |



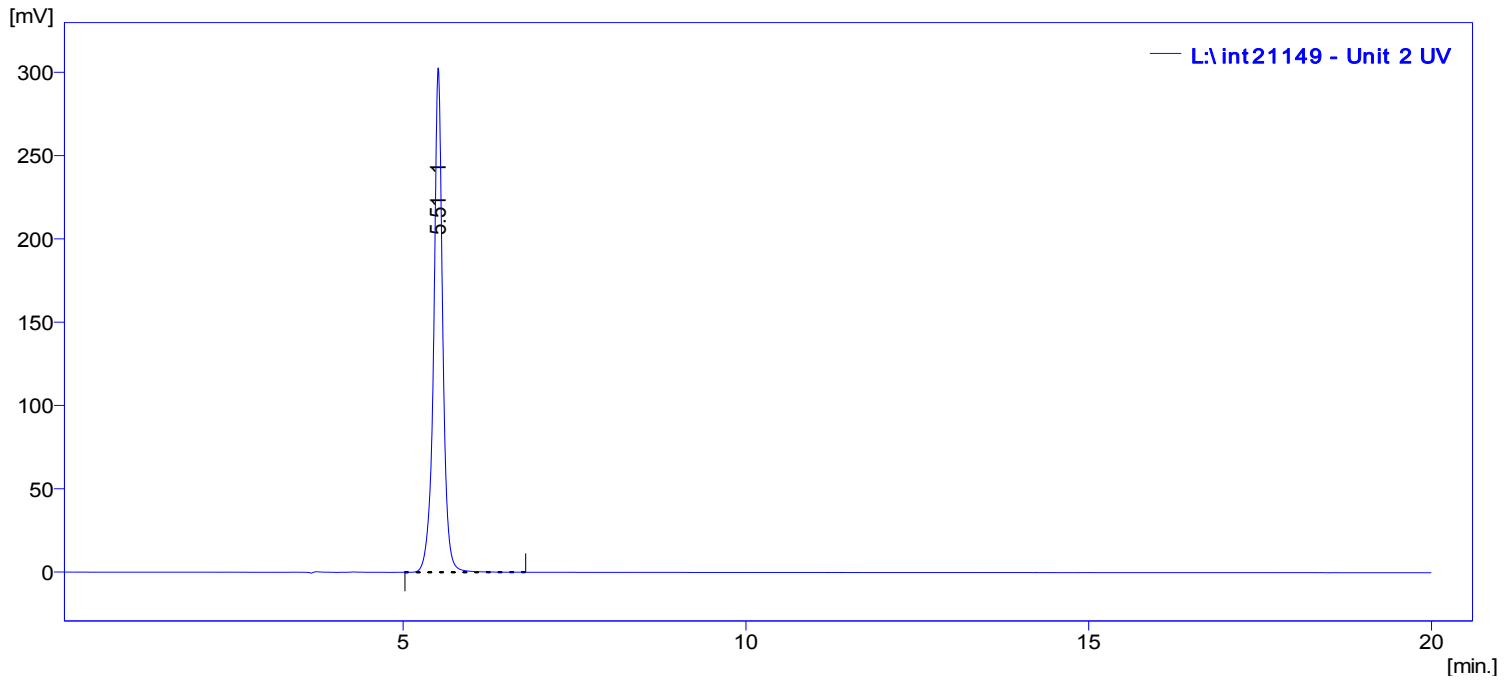
Result Table (Uncal - L:\int21148 - Unit 2 UV)

|   | Compound Name | Reten. Time [min] | Area [mV.s] | Height [mV] | Area [%] | Height [%] | W05 [min] | Efficiency [th.pl] | Eff/I [t.p./m] | Resolution [-] | Symmetry/Tailing [-] | Response Factor |
|---|---------------|-------------------|-------------|-------------|----------|------------|-----------|--------------------|----------------|----------------|----------------------|-----------------|
| 1 |               | 5.48              | 1.113       | 0.12        | 100.00   | 100.0      | 0.13      | 9347               | 186937         |                | 1.15                 |                 |
|   |               | Total             | 1.113       | 0.12        | 100.00   | 100.0      |           |                    |                |                |                      |                 |

**MT-1937**  
**Nicotinamide, [6-3H(N)]-**  
**Lot 217-006-0252-A-20110324-TN**

Chromatogram Info:

|              |  |               |                        |
|--------------|--|---------------|------------------------|
| File Name    | : L:\int21149  | File Created  | : 4/16/2014 2:09:29 PM |
| Origin       | : Acquired, Acquisition started 5/20/2011 3:04:35 PM | Acquired Date | : 5/20/2011 3:24:35 PM |
| Project      | : Work1  | By            | : Administrator        |
| Method       | : unit2-20minrun                                     | By            | : Administrator        |
| Description  | : UV trace of standard material alone                | Modified      | : 4/16/2014 2:21 PM    |
| Created      | : 8/8/2007 9:12 AM                                   |               |                        |
| Column       | :  | Detection     | : UV 259nm             |
| Mobile Phase | :  | Temperature   | :                      |
| Flow Rate    | :  | Pressure      | :                      |
| Note         | :  |               |                        |



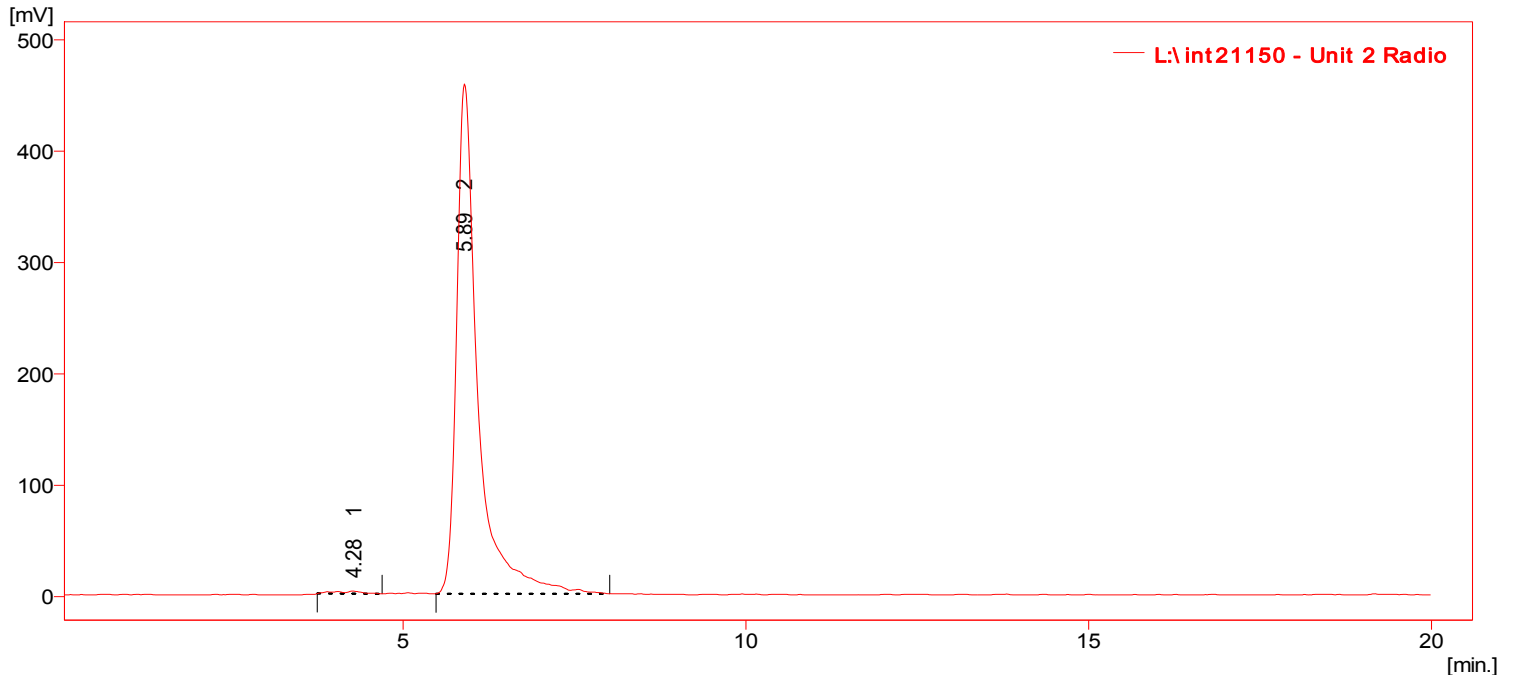
Result Table (Uncal - L:\int21149 - Unit 2 UV)

|   | Compound Name | Reten. Time [min] | Area [mV.s] | Height [mV] | Area [%] | Height [%] | W05 [min] | Efficiency [th.pl] | Eff/I [t.p./m] | Resolution [-] | Symmetry/Tailing [-] | Response Factor |
|---|---------------|-------------------|-------------|-------------|----------|------------|-----------|--------------------|----------------|----------------|----------------------|-----------------|
| 1 |               | 5.51              | 2773.809    | 302.76      | 100.00   | 100.0      | 0.13      | 9952               | 199047         |                | 0.98                 |                 |
|   |               | Total             | 2773.809    | 302.76      | 100.00   | 100.0      |           |                    |                |                |                      |                 |

**MT-1937**  
**Nicotinamide, [6-3H(N)]-**  
**Lot 217-006-0252-A-20110324-TN**

Chromatogram Info:

|              |  |               |                        |
|--------------|--|---------------|------------------------|
| File Name    | : L:\int21150  | File Created  | : 4/16/2014 2:09:29 PM |
| Origin       | : Acquired, Acquisition started 5/20/2011 3:32:15 PM           | Acquired Date | : 5/20/2011 3:52:14 PM |
| Project      | : Work1  | By            | : Administrator        |
| Method       | : unit2-20minrun   | By            | : Administrator        |
| Description  | : Radiochemical trace of 3H material co-injected with standard |               |                        |
| Created      | : 8/8/2007 9:12 AM   | Modified      | : 4/16/2014 2:23 PM    |
| Column       | :  | Detection     | : Radiochemical        |
| Mobile Phase | :  | Temperature   | :                      |
| Flow Rate    | :  | Pressure      | :                      |
| Note         | :  |               |                        |



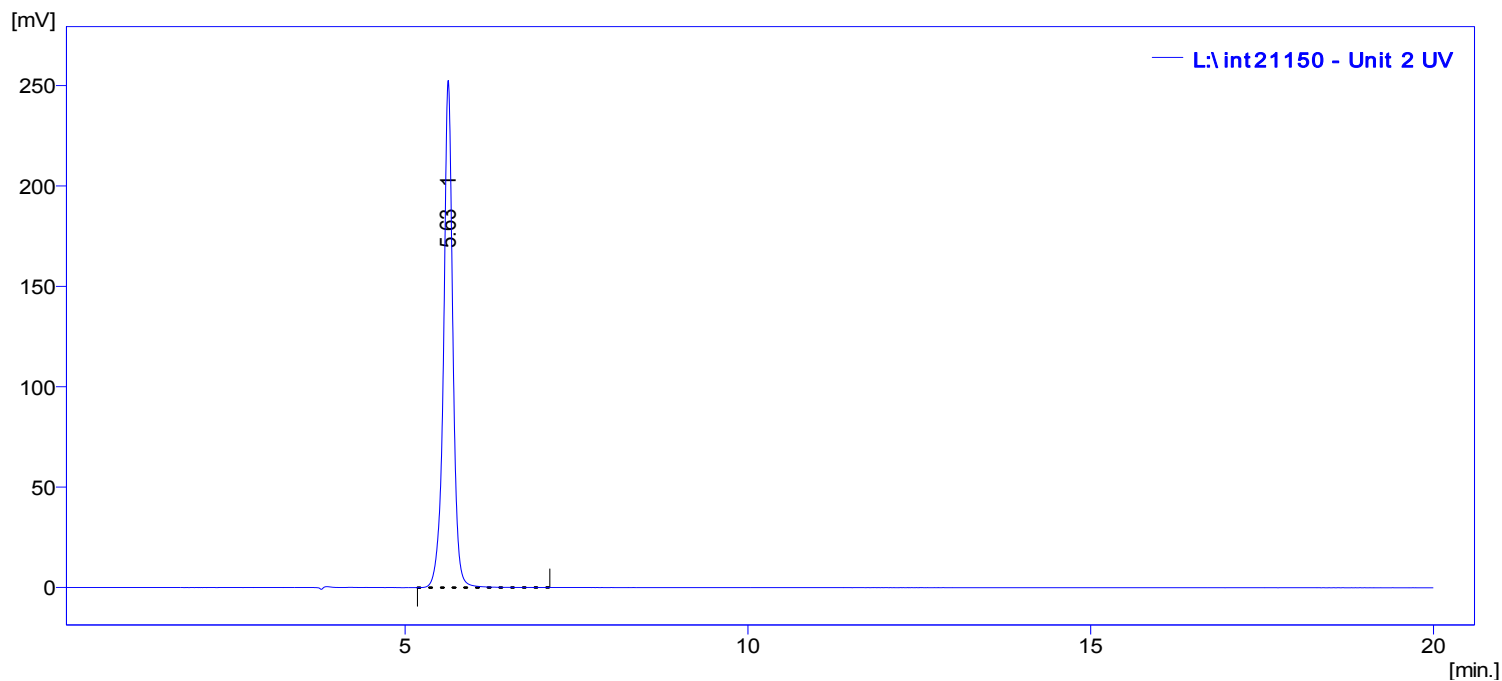
Result Table (Uncal - L:\int21150 - Unit 2 Radio)

|   | Compound Name | Reten. Time [min] | Area [mV.s] | Height [mV] | Area [%] | Height [%] | W05 [min] | Efficiency [th.pl] | Eff/l [t.p./m] | Resolution [-] | Symmetry/Tailing [-] | Response Factor |
|---|---------------|-------------------|-------------|-------------|----------|------------|-----------|--------------------|----------------|----------------|----------------------|-----------------|
| 1 |               | 4.28              | 61.888      | 2.35        | 0.62     | 0.5        | 0.23      | 1975               | 39505          |                | 0.85                 |                 |
| 2 |               | 5.89              | 9857.519    | 457.84      | 99.38    | 99.5       | 0.28      | 2454               | 49085          | 3.76           | 1.80                 |                 |
|   | Total         |                   | 9919.406    | 460.19      | 100.00   | 100.0      |           |                    |                |                |                      |                 |

**MT-1937**  
**Nicotinamide, [6-3H(N)]-**  
**Lot 217-006-0252-A-20110324-TN**

Chromatogram Info:

|              |  |               |                        |
|--------------|--|---------------|------------------------|
| File Name    | : L:\int21150  | File Created  | : 4/16/2014 2:09:29 PM |
| Origin       | : Acquired, Acquisition started 5/20/2011 3:32:15 PM | Acquired Date | : 5/20/2011 3:52:14 PM |
| Project      | : Work1  | By            | : Administrator        |
| Method       | : unit2-20minrun                                     | By            | : Administrator        |
| Description  | : UV trace of 3H material co-injected with standard  | Modified      | : 4/16/2014 2:22 PM    |
| Created      | : 8/8/2007 9:12 AM                                   |               |                        |
| Column       | :  | Detection     | : UV 259nm             |
| Mobile Phase | :  | Temperature   | :                      |
| Flow Rate    | :  | Pressure      | :                      |
| Note         | :  |               |                        |



Result Table (Uncal - L:\int21150 - Unit 2 UV)

| Compound Name | Reten. Time [min] | Area [mV.s] | Height [mV] | Area [%] | Height [%] | W05 [min] | Efficiency [th.pl] | Eff/l [t.p./m] | Resolution [-] | Symmetry/Tailing [-] | Response Factor |
|---------------|-------------------|-------------|-------------|----------|------------|-----------|--------------------|----------------|----------------|----------------------|-----------------|
| 1             | 5.63              | 2384.745    | 252.66      | 100.00   | 100.0      | 0.14      | 8949               | 178972         |                | 0.97                 |                 |
| Total         |                   | 2384.745    | 252.66      | 100.00   | 100.0      |           |                    |                |                |                      |                 |

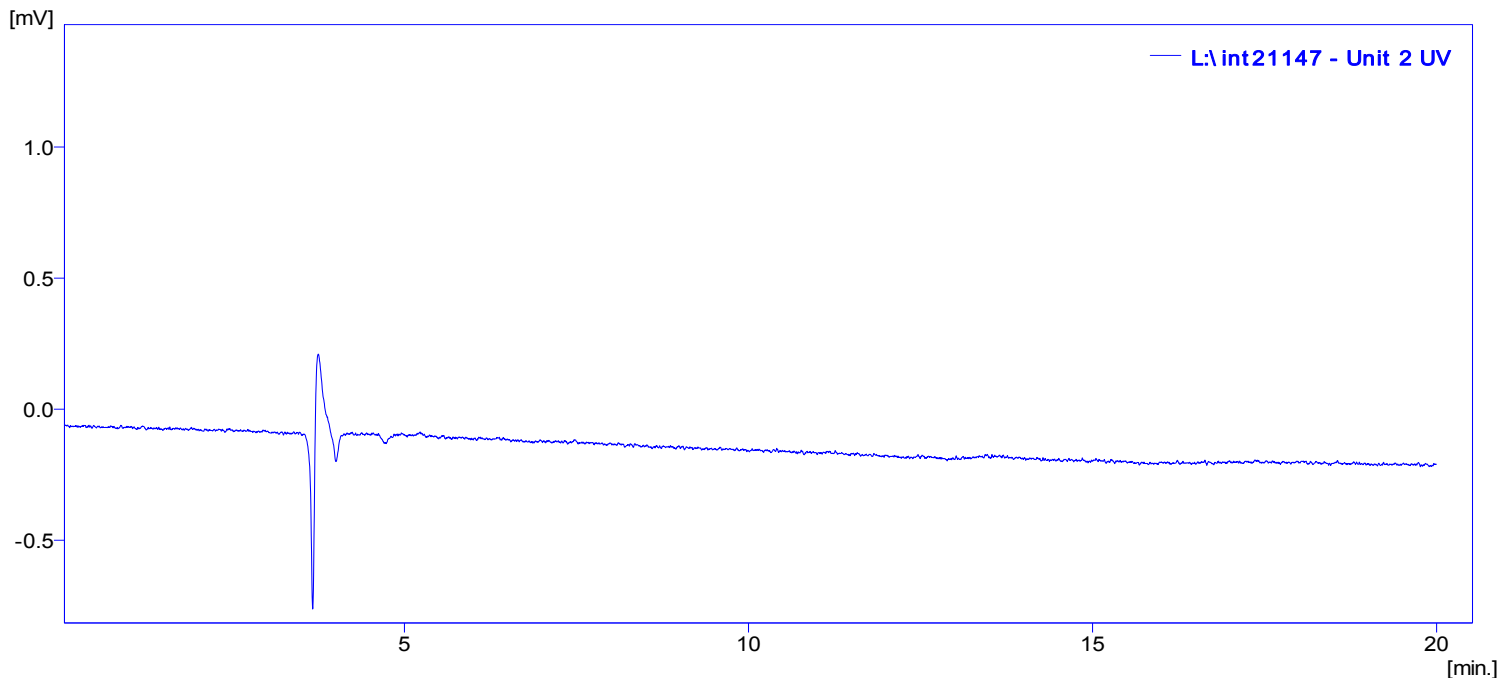
**MT-1937**  
**Nicotinamide, [6-3H(N)]-**  
**Lot 217-006-0252-A-20110324-TN**

## Chromatogram Info:

File Name : L:\int21147 File Created : 4/16/2014 2:09:29 PM  
 Origin : Acquired, Acquisition started 5/20/2011 11:26:38 AM Acquired Date : 5/20/2011 11:46:38 AM  
 Project : Work1 By : Administrator

Method : unit2-20minrun By : Administrator  
 Description : UV trace of blank injection  
 Created : 8/8/2007 9:12 AM Modified : 4/16/2014 2:24 PM

Column : Detection : UV 259nm  
 Mobile Phase : Temperature :  
 Flow Rate : Pressure :  
 Note :

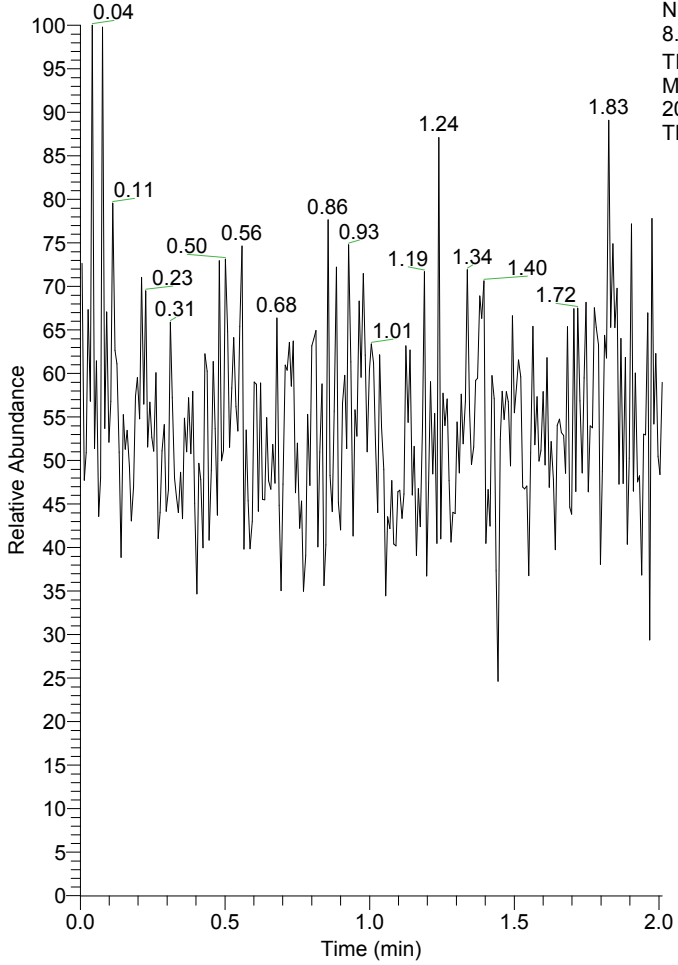


Result Table (Uncal - L:\int21147 - Unit 2 UV)

| Compound Name     | Reten. Time [min] | Area [mV.s] | Height [mV] | Area [%] | Height [%] | W05 [min] | Efficiency [th.pl] | Eff/l [t.p./m] | Resolution [-] | Symmetry/Tailing [-] | Response Factor |
|-------------------|-------------------|-------------|-------------|----------|------------|-----------|--------------------|----------------|----------------|----------------------|-----------------|
| No peak to report |                   |             |             |          |            |           |                    |                |                |                      |                 |



RT: 0.00 - 2.01



NL:  
8.81E8  
TIC MS  
MT1937-  
20110324-  
TN

MT1937-20110324-TN#1-284 RT: 0.01-2.01

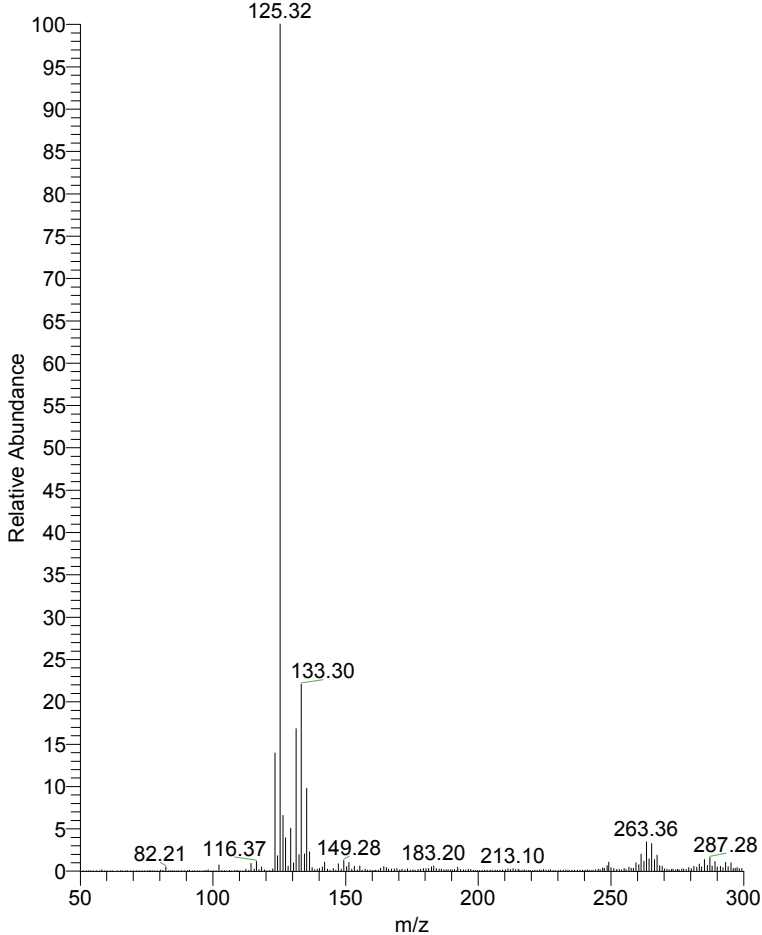
T: + c ESI Full ms [50.00-300.00]

m/z = 117.79-129.82

| m/z    | Intensity   | Relative |
|--------|-------------|----------|
| 119.35 | 218102.7    | 0.12     |
| 120.35 | 53562.9     | 0.03     |
| 121.44 | 92917.9     | 0.05     |
| 122.51 | 464062.0    | 0.25     |
| 123.36 | 26025954.6  | 13.95    |
| 124.36 | 3372543.2   | 1.81     |
| 125.32 | 186632308.5 | 100.00   |
| 126.44 | 12230158.9  | 6.55     |
| 127.35 | 7323213.3   | 3.92     |
| 128.39 | 1046118.7   | 0.56     |
| 129.30 | 9442984.1   | 5.06     |

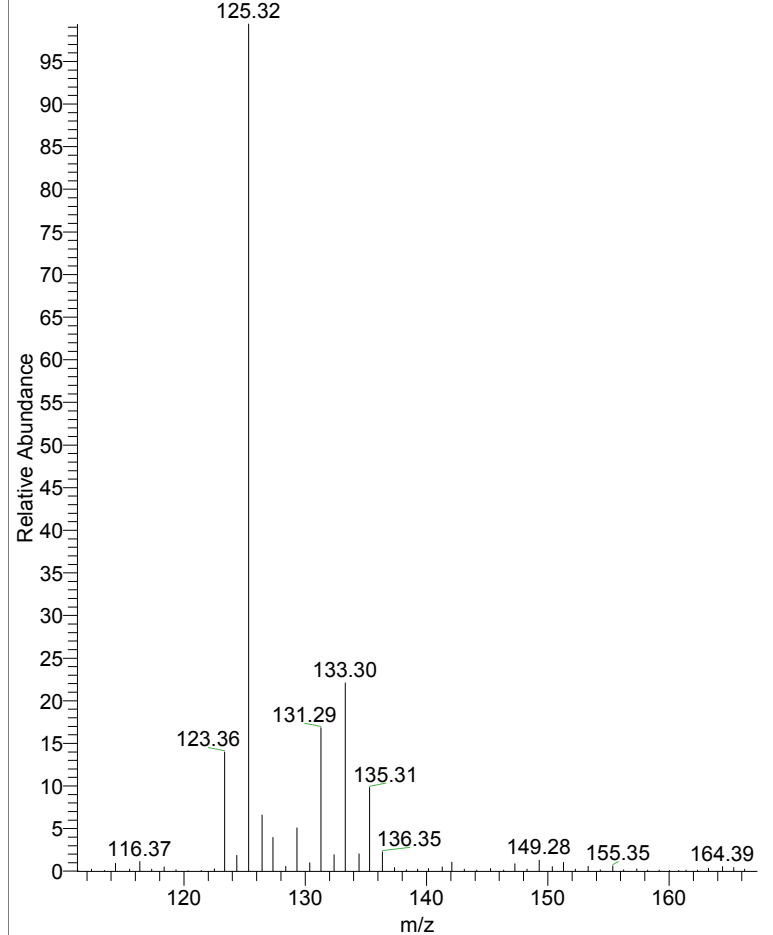
MT1937-20110324-TN #1-284 RT: 0.01-2.01 AV: 284 NL: 1.87E8

T: + c ESI Full ms [50.00-300.00]



MT1937-20110324-TN #1-284 RT: 0.01-2.01 AV: 284 NL: 1.87E8

T: + c ESI Full ms [50.00-300.00]



MT1937 3H NMR in MeOD  
Batch 20110324-TN



**BRUKER**

8.750  
8.740

NAME MT1937-20110324-TN  
EXPNO 1  
PROCNO 1  
Date\_ 20110523  
Time\_ 14.01  
INSTRUM spect  
PROBHD 5 mm DUX 3H-1H  
PULPROG zg  
TD 16384  
SOLVENT MeOD  
NS 5000  
DS 2  
SWH 6172.839 Hz  
FIDRES 0.376760 Hz  
AQ 1.3271540 sec  
RG 46341  
DW 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 3H  
P1 10.00 usec  
PL1 2.00 dB  
SF01 320.1321857 MHz  
SI 32768  
SF 320.1305850 MHz  
WDW no  
SSB 0  
LB 0.00 Hz  
GB 0  
PC 1.00

