

Certificate of Analysis

ISO 9001

Reference Material

Product name

2-Bromo-N-[4-bromo-2-(pyridin-2-ylcarbonyl)phenyl]acetamide

Product code

MM0064.07

CAS number

1694-64-0

Molecular weight

398.05

Molecular formula

C₁₄H₁₀Br₂N₂O₂

Lot number

1022879

Appearance

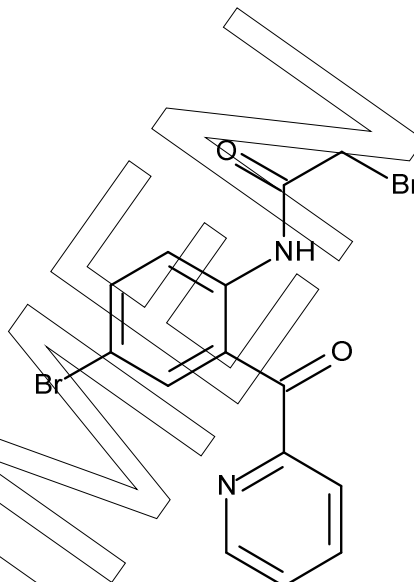
brown solid

Melting point

104 °C (dec.)

Long-term storage

-18 °C, dark



Assay "as is"
91.6 %

Date of shipment:

06 Apr 2020

Producer confirms that this reference material (RM) meets the specification detailed on this Certificate of Analysis for **two years** from the date of shipment, provided the substance is stored under the recommended conditions unopened in the original container.

Release by:	Date of Release:		Product Release
Dr. Sabine Schröder	Luckenwalde, 26 Mar 2020		



Mikromol™

Product information

For laboratory use only. Not suitable for human or animal consumption.

Before usage of the RM, it should be allowed to warm to room temperature. No drying required, as the certified value is already corrected for the content of water and other volatile materials.

The product quality is controlled by regularly performed quality control tests (retests).

Further content

Identity

Assay

Final result

Revision table

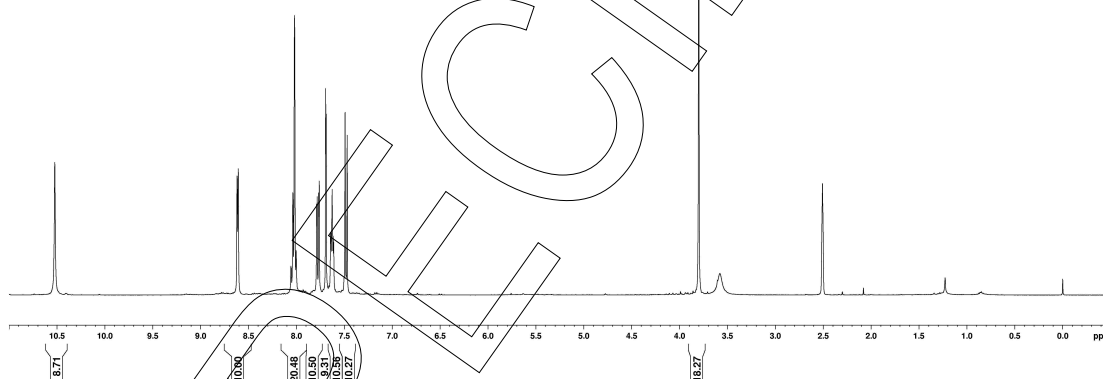
SPECIMEN



Identity

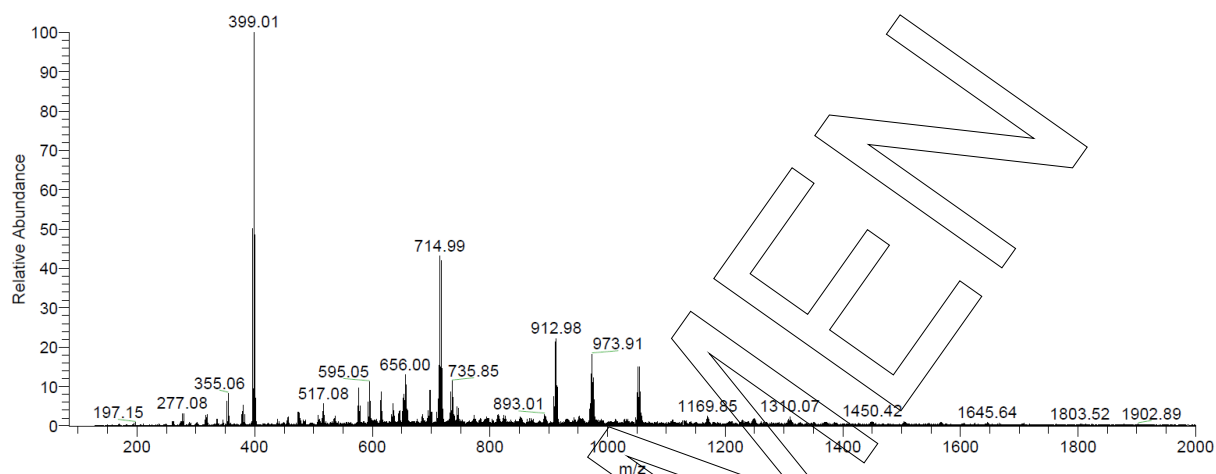
The identity of the reference material was established by following analyses.

Method	Conditions	Result
¹ H-NMR	400 MHz, DMSO-d ₆	Structure confirmed

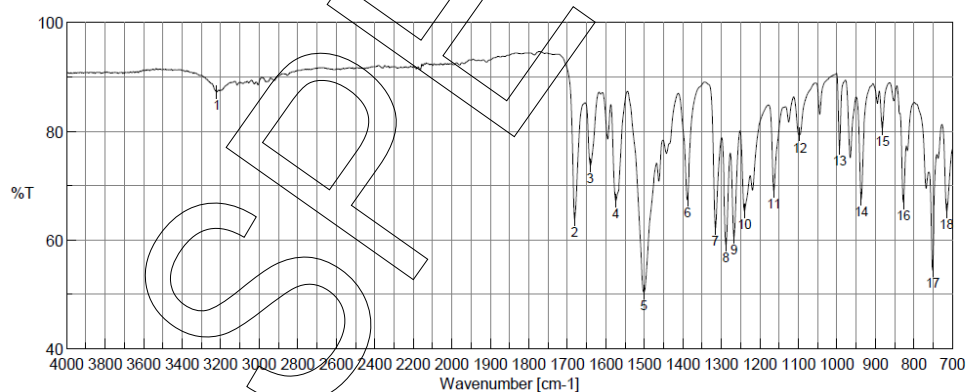




Method	Conditions	Result
MS	4.5 kV ESI+; vaporization temperature: 200 °C	Structure confirmed



Method	Conditions	Result
IR	Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy	Structure confirmed



Result of Peak Picking		
No.	Position	Intensity
1	3219.58	87.2521
2	1681.62	63.8159
3	1640.16	73.7773
4	1574.59	67.1881
5	1501.31	50.3558
6	1388.5	67.3774
7	1316.18	62.1736
8	1288.22	59.0801
9	1267	60.4979
10	1240	65.3445
11	1163.83	68.9655
12	1096.33	79.3591
13	993.16	76.9043
14	937.235	67.5768
15	882.274	80.4888
16	827.312	66.9268
17	752.102	54.4234
18	715.461	65.3048



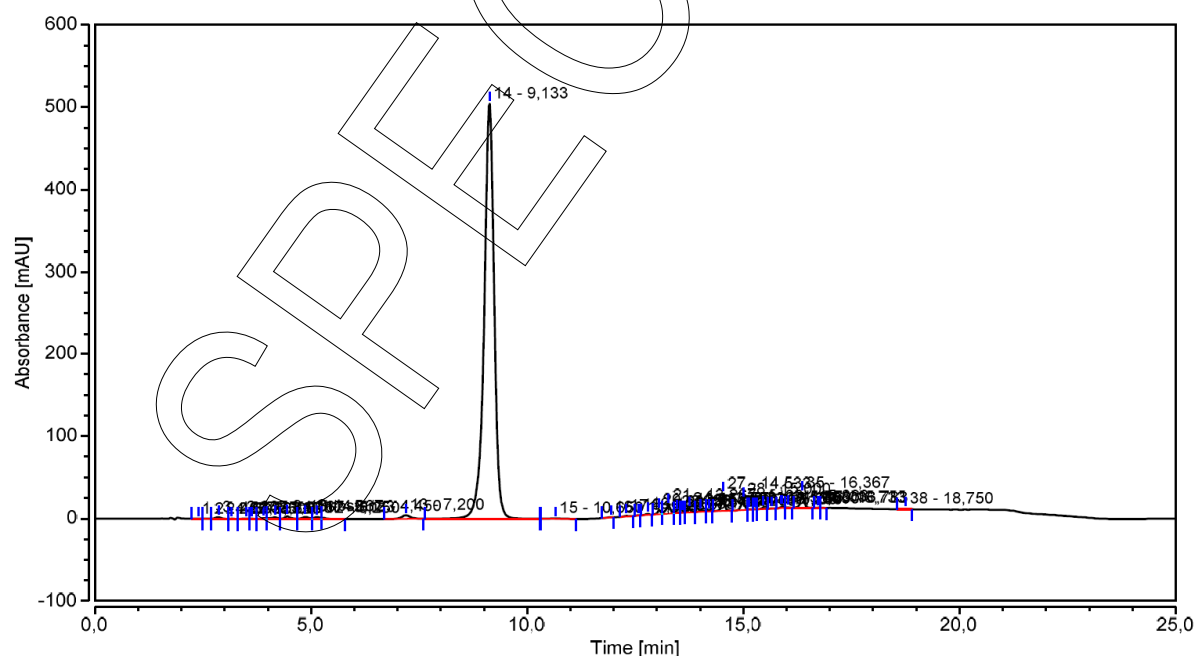
Assay

The assay of the reference material was assessed by following analyses.

Purity by High Performance Liquid Chromatography (HPLC)

HPLC conditions:	
Column	Hypersil Gold C18; 5 µm, 150 x 4.6 mm
Column temperature	40 °C
Detector	DAD, 235 nm
Injector	Auto 2 µl; 0.264 mg/ml in Acetonitrile
Flow rate	1.0 ml/min
Phase A	Water, 0.1 % H ₃ PO ₄
Phase B	Acetonitrile, 0.1 % H ₃ PO ₄
Gradient program	0-8 min A/B 65/35 8-13 min A/B to 10/90 13-18 min A/B 10/90 18-20 min A/B to 65/35 20-25 min A/B 65/35 (v/v)

HPLC chromatogram and peak table





Area percent report - sorted by signal

Pk #	Retention time	Area	Area %
1	2.400	0.018	0.01
2	2.683	0.017	0.01
3	2.867	0.333	0.23
4	3.167	0.016	0.01
5	3.500	0.047	0.03
6	3.633	0.017	0.01
7	3.900	0.142	0.10
8	4.167	0.373	0.25
9	4.450	0.527	0.36
10	4.867	0.469	0.32
11	5.133	0.423	0.29
12	5.250	0.194	0.13
13	7.200	1.118	0.76
14	9.133	135.077	91.95
15	10.650	0.184	0.12
16	11.933	0.054	0.04
17	12.283	0.125	0.09
18	12.567	0.026	0.02
19	12.783	0.121	0.08
20	13.050	0.431	0.29
21	13.267	1.143	0.78
22	13.467	0.158	0.11
23	13.583	0.073	0.05
24	13.750	0.379	0.26
25	14.017	0.202	0.14
26	14.200	0.046	0.03
27	14.533	1.794	1.22
28	15.000	1.211	0.82



29	15.133	0.053	0.04
30	15.250	0.011	0.01
31	15.450	0.141	0.10
32	15.650	0.029	0.02
33	15.883	0.139	0.09
34	16.033	0.048	0.03
35	16.367	1.641	1.12
36	16.733	0.028	0.02
37	16.783	0.019	0.01
38	18.750	0.067	0.05
Totals		146.897	100.00

The content of the analyte was determined as ratio of the peak area of the analyte and the cumulative areas of the purities, added up to 100 %. System peaks were ignored in calculation.

Result (n = 3)

91.91 %; SD = 0.10 %

Volatile content**Water content****Method** Karl Fischer titration**Result (n = 3)** 0.38 %; SD = 0.02 %**Residual solvents****Method** ¹H-NMR**Result (n = 1)** No significant amounts of residual solvents were detected (< 0.05 %).



Final result

Assay "as is": 91.56 %

The assay "as is" is assessed by 100% method (mass balance) and is equivalent to the assay based on the not anhydrous and not dried substance respectively.

The calculation of the 100% method follows the formula:

$$\text{Assay (\%)} = (100 \% - \text{volatile contents (\%)}) * \frac{\text{Purity (\%)}}{100 \%}$$

Volatile contents are considered as absolute contributions and purity is considered as relative contribution. Inorganic residues are excluded by additional tests.

Revision table

Revision	Date	Reason for revision
00	26 Mar 2020	Release of the Certificate of Analysis – initial version

Product warranties for the RM are set out in the terms and conditions of purchase.