



Mikromol™



## Certificate of Analysis

### Reference Material

#### Product name

N-Formyl-L-leucine (3S,4R,6S)-3-Hexyl-2-oxo-6-undecyltetrahydro-2H-pyran-4-yl Ester

#### Product code

MM1219.11-0050

#### CAS number

130793-27-0

#### Molecular weight

495.73

#### Molecular formula

C<sub>29</sub>H<sub>53</sub>NO<sub>5</sub>

#### Lot number

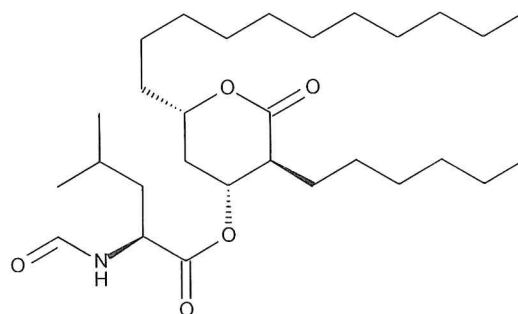
1354001

#### Appearance

colourless liquid

#### Long-term storage

- 18 °C, dark



Assay "as is"  
99.7 %

Date of shipment:

**15 May 2025**

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

<b>Release by:</b>	<b>Date of Release:</b>		Product Release
Dr. Sabine Schröder	Luckenwalde, 13 Mar 2023		



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## 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).

## Health and safety information

All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel only. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

## Further content

Identity

Assay

Final result

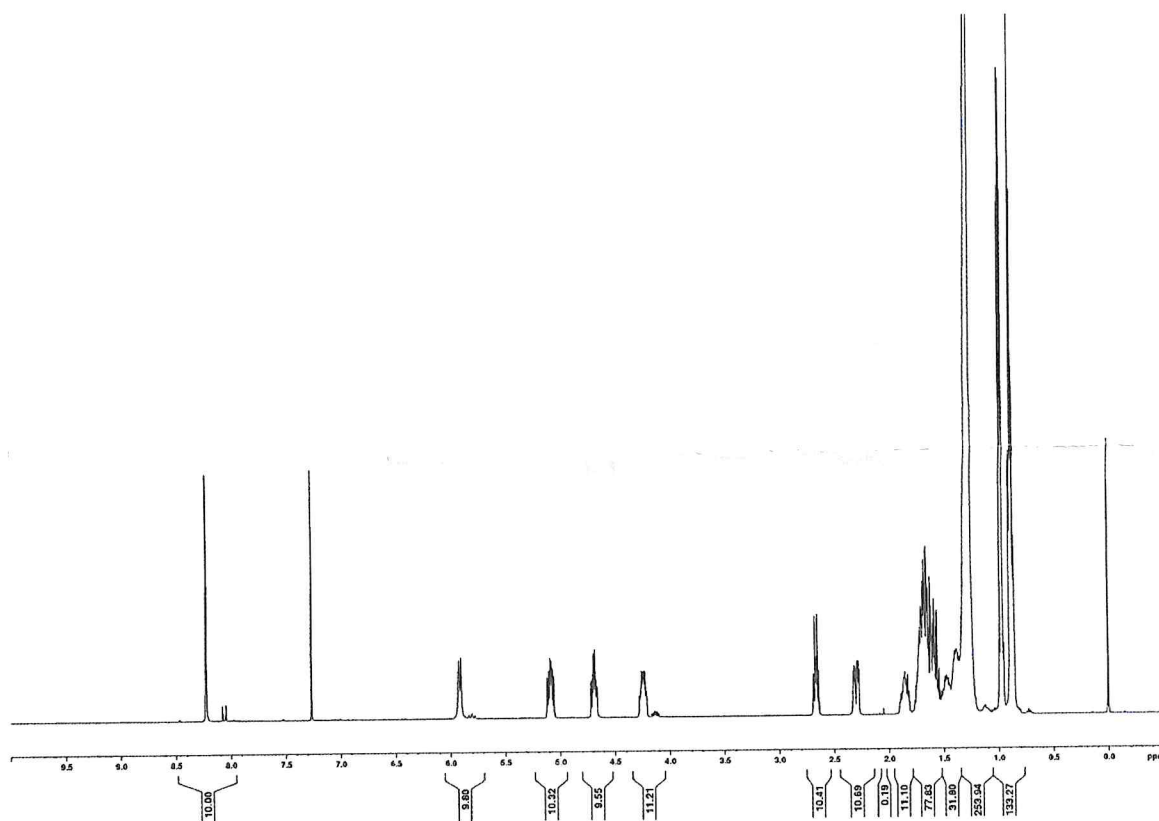
Revision table



## Identity

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

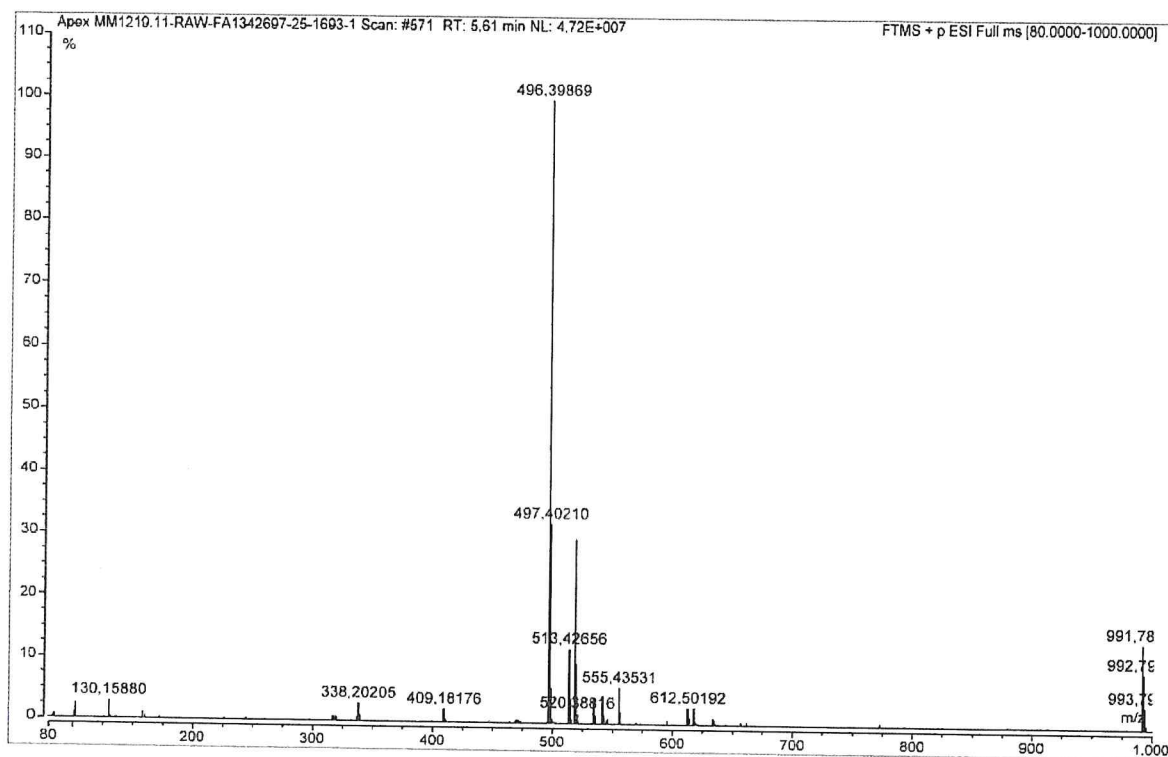
Method	Conditions	Result
<sup>1</sup> H-NMR	400 MHz, CDCl <sub>3</sub>	Structure confirmed





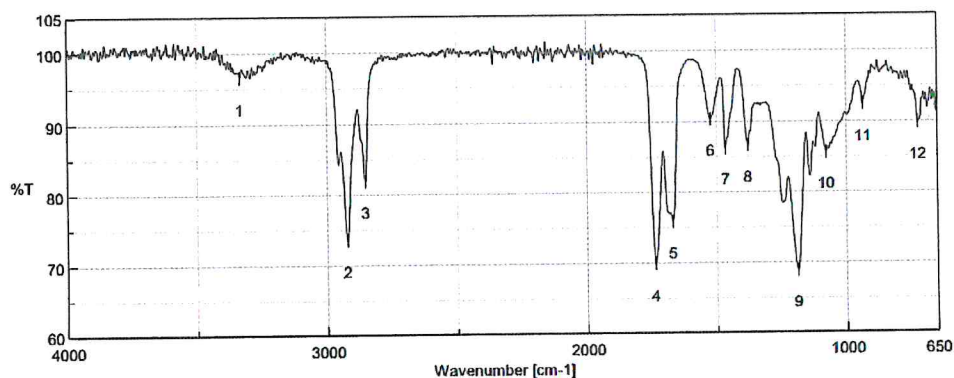
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Method	Conditions	Result
MS	3.5 kV ESI+; capillary temperature: 269 °C Theoretical value: 496.39965	Structure confirmed





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



Results of Peak Find		
No.	Position	Intensity
1	3334.32	96.4923
2	2923.56	73.4813
3	2854.13	81.8624
4	1737.55	69.8864
5	1671.02	75.8704
6	1524.45	90.2873
7	1466.6	86.2347
8	1379.82	86.6317
9	1188.9	68.8602
10	1078.01	85.5875
11	936.271	92.3634
12	725.104	89.79

## Assay

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

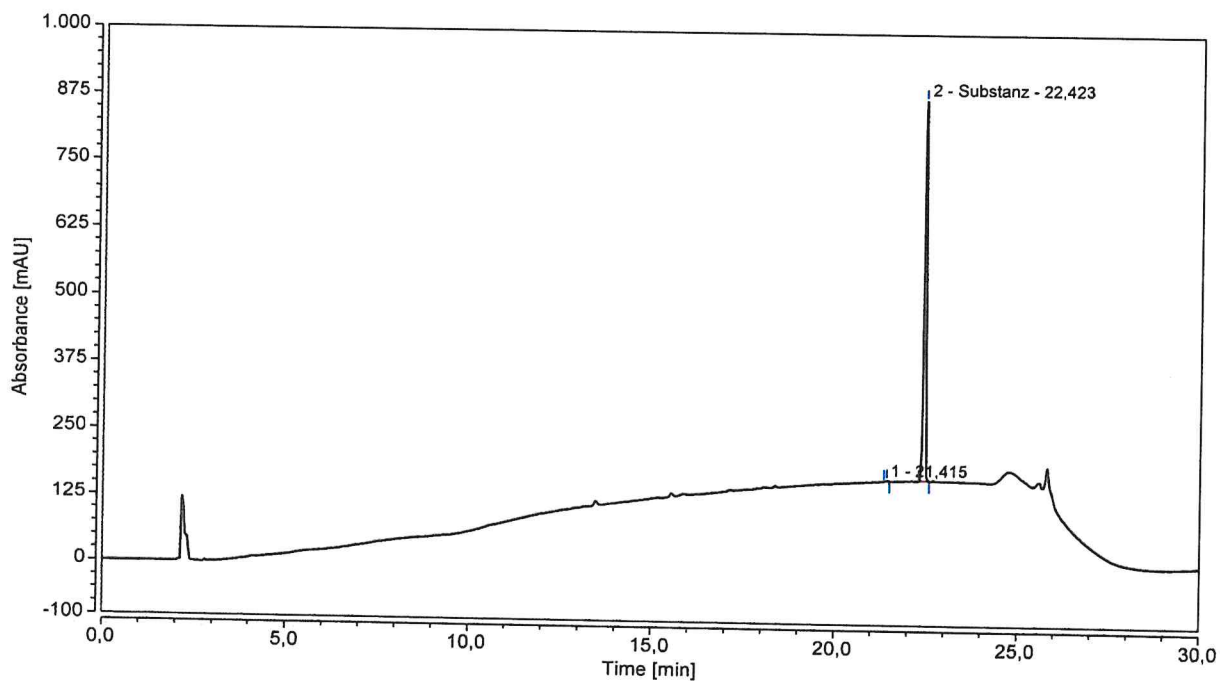
### Purity by High Performance Liquid Chromatography (HPLC)

HPLC conditions:	
Column	Hypersil Gold C18; 5 µm, 150 x 4.6 mm
Column temperature	40 °C
Detector	DAD, 200 nm
Injector	Auto 5 µl; 0.251 mg/ml in Methanol
Flow rate	1.0 ml/min
Phase A	Water, 0.1 % H <sub>3</sub> PO <sub>4</sub>
Phase B	Acetonitrile, 0.1 % H <sub>3</sub> PO <sub>4</sub>
Gradient program	0 min A/B 98/2 0-20 min A/B to 3/97 20-22 min A/B 3/97 22-25 min A/B to 98/2 25-30 min A/B 98/2 (v/v)





HPLC chromatogram and peak table



Area percent report - sorted by signal				
Pk #	Retention time	Area	Area %	
1	21.415	0.062	0.14	
2	22.423	45.274	99.86	
Totals		45.336	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)	99.87 %; SD = 0.01 %
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## Volatile content

Water content	
Method	Karl Fischer titration
Result (n = 3)	0.07 %; SD = 0.01 %

Residual solvents	
Method	<sup>1</sup> H-NMR
Result (n = 1)	Sum: 0.07 % 0.07 % Ethyl acetate

## Final result

**Assay "as is": 99.73 %**

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	13 Mar 2023	Release of the Certificate of Analysis – initial version

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

