

# Certificate of Analysis

## Thymidine

### PurCert Standard

(Secondary Reference Standard)

<b>Product Number</b>	PSR39162	<b>CAS No.</b>	50-89-5
<b>Brand</b>	PureSynth	<b>Lot No.</b>	IR04B
<b>Molecular Formula</b>	C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> O <sub>5</sub>	<b>Date of Mfg.</b>	Apr.2022
<b>Molecular Weight</b>	242.23 g/mol	<b>Date of Exp.</b>	Mar.2026

Test	Specification	Result
Description	White powder	White powder
Assay (HPLC)	≥ 99.5 %	99.73 %
Water (By KF)	NMT 0.5 %	0.1645 %
Identification by <sup>1</sup> H NMR	Conforms to structure	Conforms
Identification by MS	Conforms to molecular mass	Conforms
Identification by IR	Conforms to structure	Conforms

**\*Traceable to USP Reference standard 1724543, Current Lot No. F0J367.**

**Storage Condition:** Store at ambient temperature and keep container tightly closed in a dry and well-ventilated place.

**Remark:** The batch complies with the prescribed quality of the above specification.

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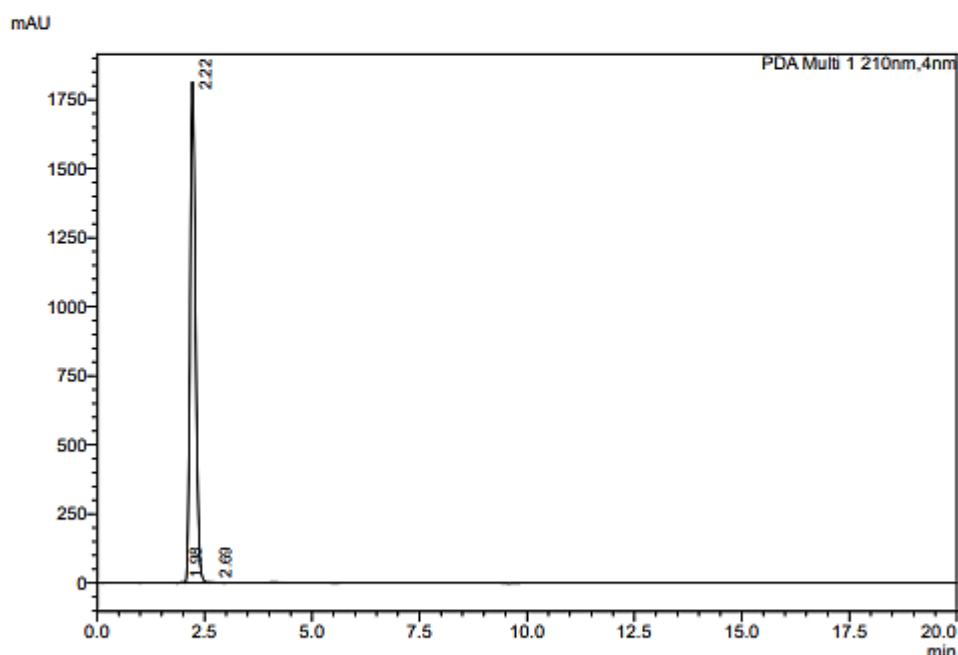
Assay by HPLC

# HPLC Report

## Sample Information

Sample Name : THYMIDINE- IR04B  
 Data Filename : AR22000248-THYMIDINE- IR04B.lcd  
 Method Filename : Thimerosal.lcm  
 Tray No. : 3  
 Vial No. : 38  
 Injection Volume : 5 uL  
 Date Acquired : 5/3/2022 4:28:05 PM  
 Acquired by : System Administrator

## Chromatogram



## Peak Table

PDA Ch1 210nm

Peak#	Ret. Time	Area	Area%
1	1.98	21721	0.136
2	2.22	15922488	99.730
3	2.69	21347	0.134
Total		15965556	100.000

**Purity: 99.73 %**

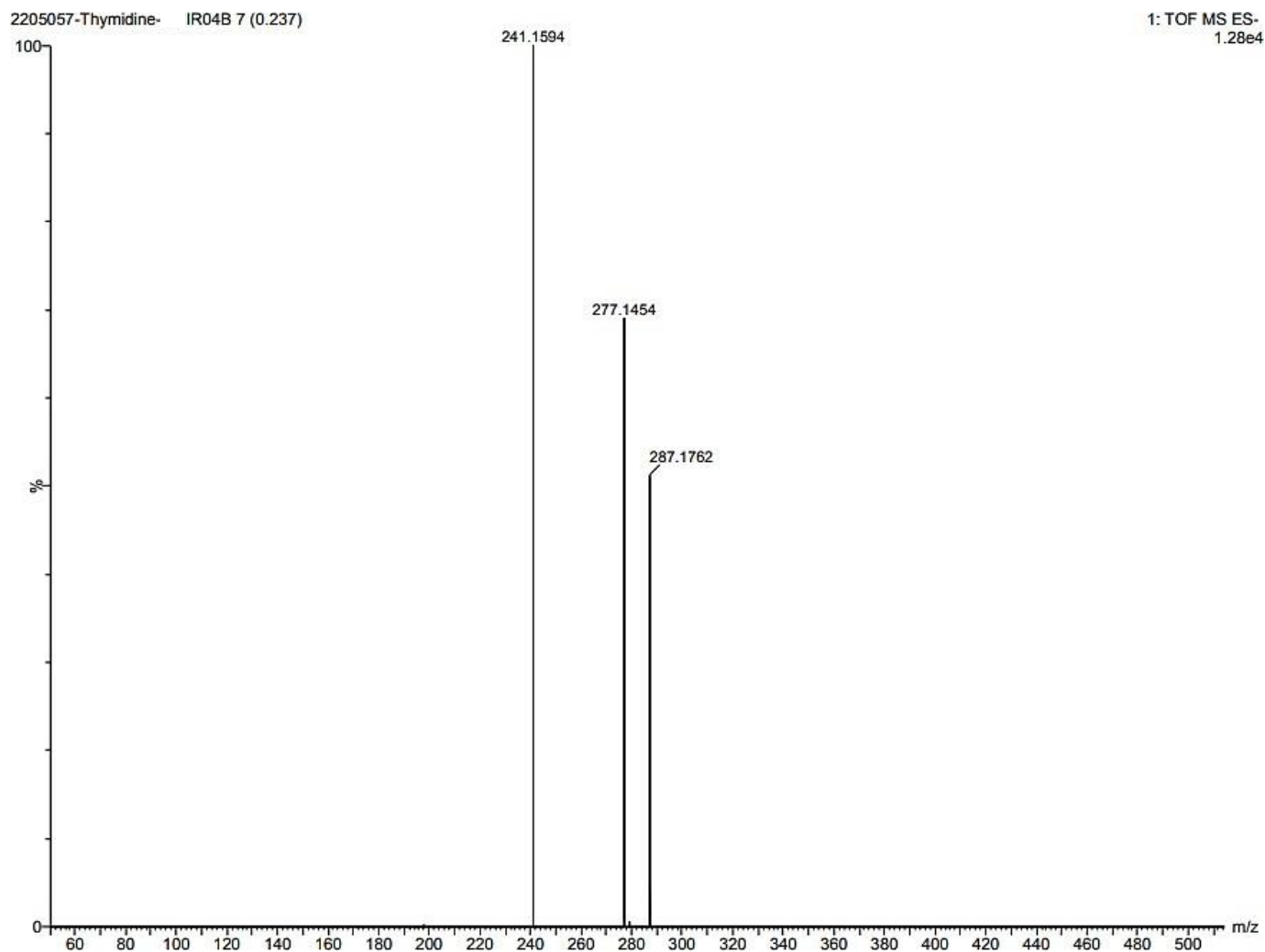
## IDENTIFICATION TESTS

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### LC- MS Spectrum:

**Product Name: Thymidine**

**Product Code: PSR39162**



**Identification by MS: Conforms to molecular mass**

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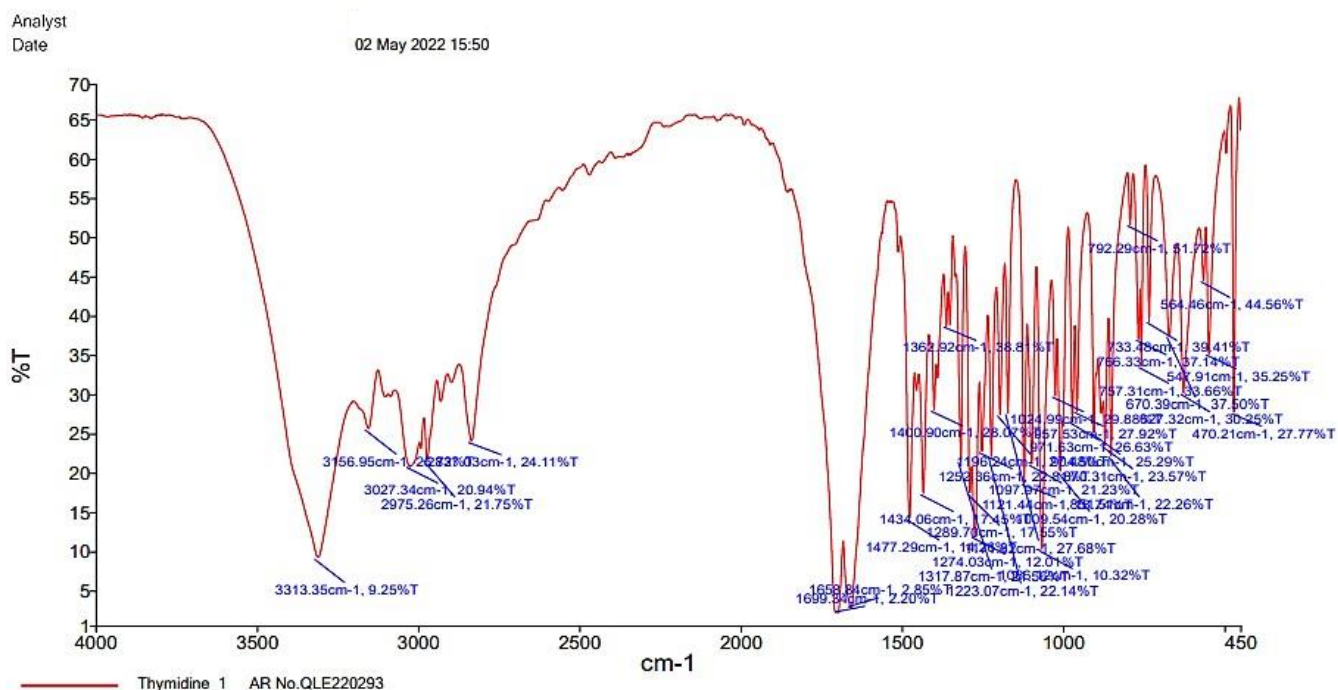
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**Infrared spectrum:**

**Product Name: Thymidine**

**Product Code: PSR39162**



Source Spectra Results	
Spectrum Name	Number Of Peaks
Thymidine_1	37

List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3313.35	9.25
2	3156.95	25.72
3	3027.34	20.94
4	2975.26	21.75
5	2837.03	24.11
6	1699.34	2.20
7	1658.84	2.85
8	1477.29	14.26
9	1434.06	17.45
10	1400.90	28.07
11	1362.92	38.81
12	1317.87	21.56
13	1289.70	17.55
14	1274.03	12.01
15	1252.36	22.81
16	1223.07	22.14
17	1196.24	27.48
18	1171.82	27.68
19	1121.44	18.74
20	1097.97	21.23
21	1066.12	10.32
22	1024.99	29.88
23	1009.54	20.28
24	971.63	26.63
25	957.53	27.92
26	904.50	25.29
27	870.31	23.57
28	851.51	22.26
29	792.29	51.72

**Identification by IR: Conforms to structure**

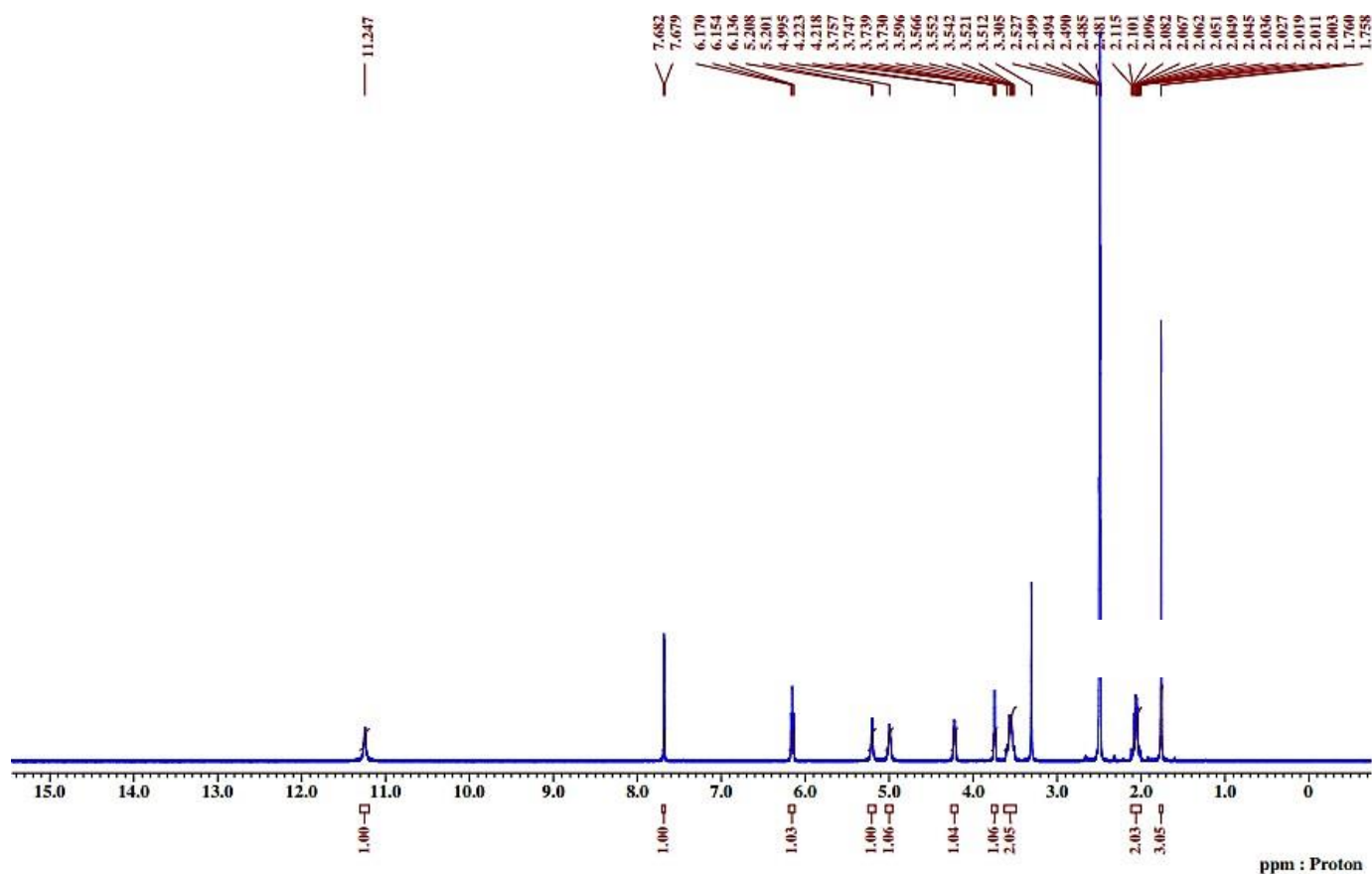
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**<sup>1</sup>H NMR Spectrum:**

**Product Name: Thymidine**

**Product Code: PSR39162**

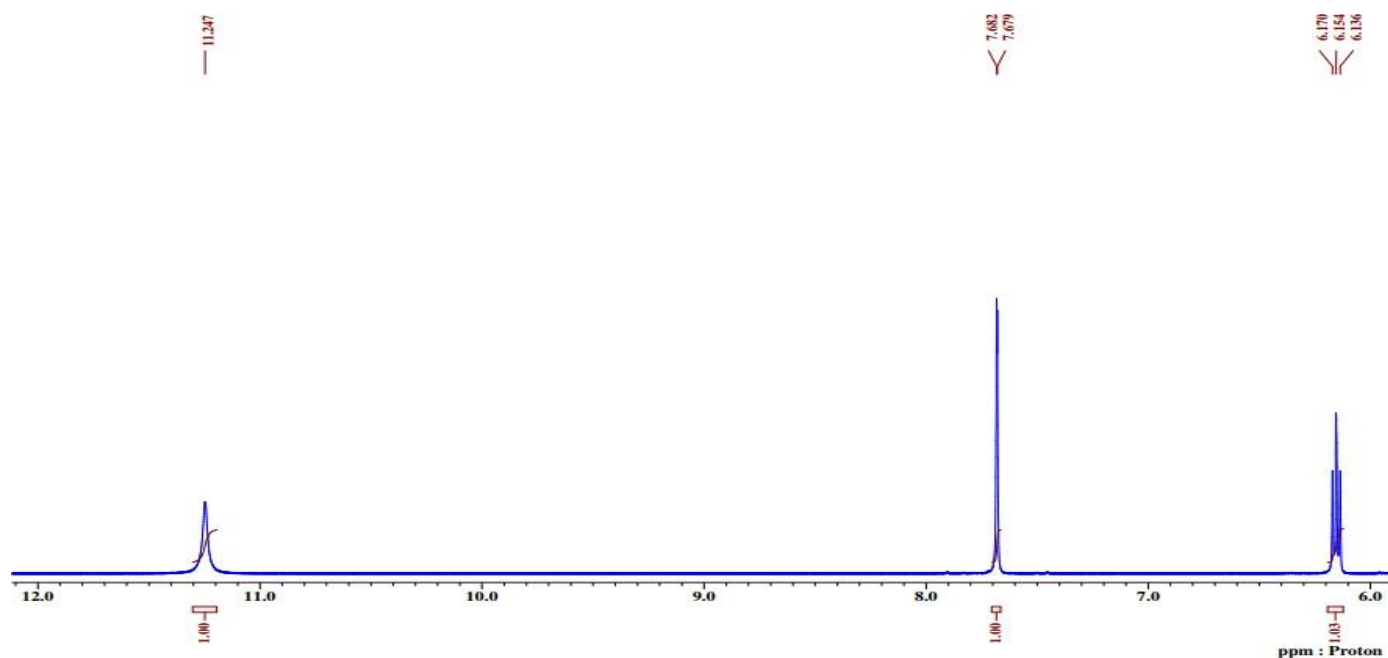


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Creation_Time = 5-MAY-2022 11:58:51	Dim_Title = Proton	
Revision_Time = 5-MAY-2022 12:09:45	Solvent = DMSO-D6	
Experiment_Details	Scans = 64	
Instrument = JEOL[Delta V5.3.2]	Temp_Get = 25[ $^{\circ}$ C]	
Spectrometer = JNM-ECZ400S/L1	X_Acq_Time = 1.16916224[s]	

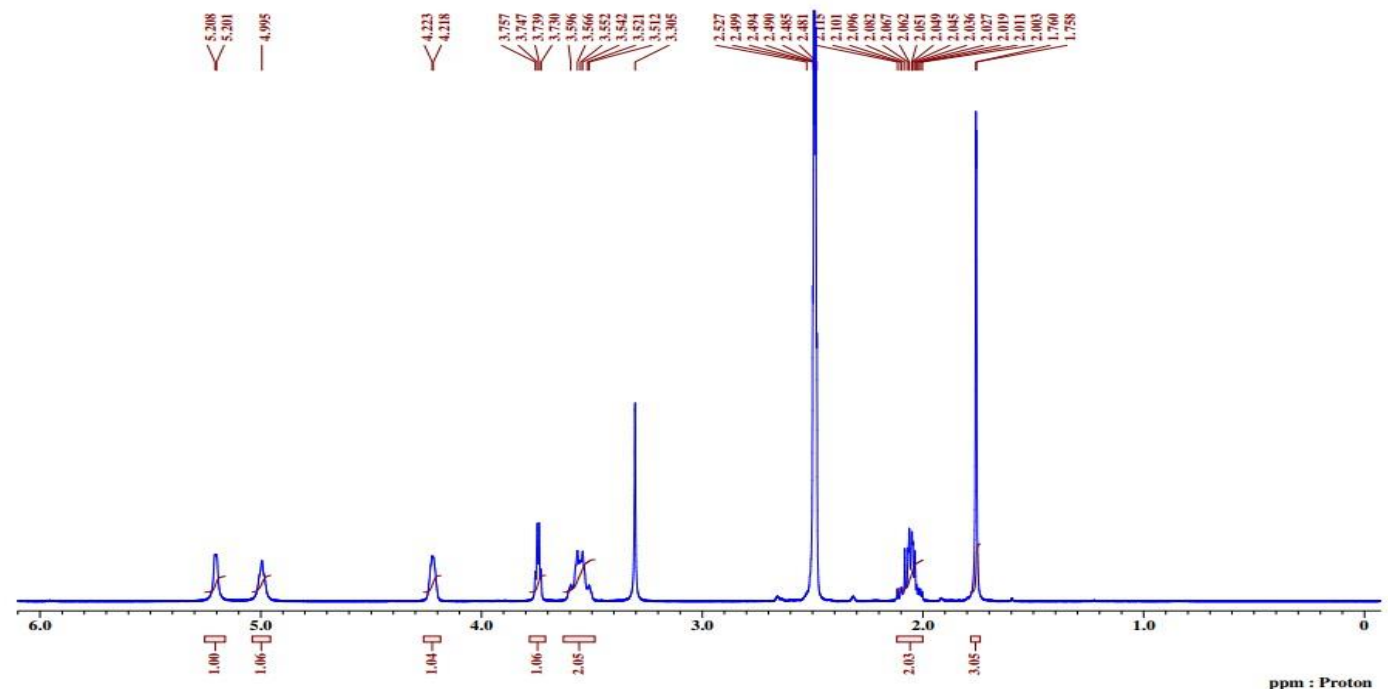
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### <sup>1</sup>H NMR Spectrum: Expansion



Sample_Id = Thymidine- IRO4B	Experiment = proton.jxp	Relaxation_Delay = 5[s]
Author = delta	X_Domain = Proton	Exp_Total = 402.0[s]
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Revision_Time = 5-MAY-2022 12:09:45	Solvent = DMSO-D6	
Experiment_Details =	Scans = 64	
Instrument = JEOL[Delta V5.3.2]	Temp_Get = 25[ $^{\circ}$ C]	
Spectrometer = JNM-ECZ400S/L1	X_Acq_Time = 1.16916224[s]	



Sample_Id = Thymidine- IRO4B	Experiment = proton.jxp	Relaxation_Delay = 5[s]
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Revision_Time = 5-MAY-2022 12:09:45	Solvent = DMSO-D6	
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Instrument = JEOL[Delta V5.3.2]	Temp_Get = 25[ $^{\circ}$ C]	
Spectrometer = JNM-ECZ400S/L1	X_Acq_Time = 1.16916224[s]	

**Identification by <sup>1</sup>H NMR: Conforms to structure**

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## Maximum limits of impurities

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### WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSR39162) = **0. 1645 %**

Approved By  
Head - Technical

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