LoGiCal®
produced by LGC

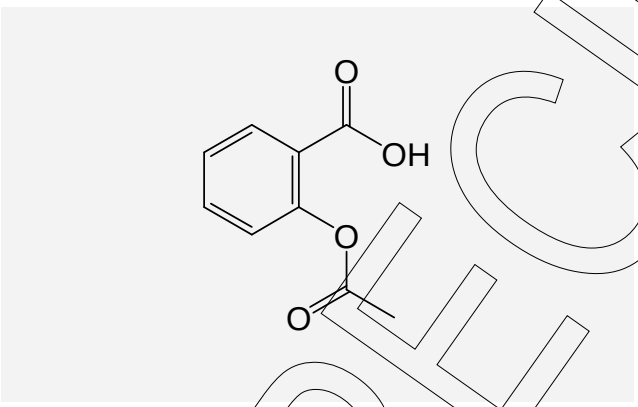
Certificate of Analysis

Reference Substance

Acetylsalicylic Acid

Catalogue Number:	LGCFOR0133.00
Lot Number:	6839
Molecular Formula:	$C_9H_8O_4$
Molecular Weight:	180.16
CAS Number:	[50-78-2]

Long-term Storage:	2 to 8 °C, dark
Appearance:	white solid
Melting Point:	136 °C
Assay 'as is':	99.6 %



Date of shipment: **2020-November-30**

This certificate is valid for two years from the date of shipment provided the substance is stored under the recommended conditions.

Release Date: 2011-03-17

LGC GmbH

Dr. Sabine Schröder
Product Release

LGC Quality | ISO 9001:2008 DQS 102448 QM08

LGC Standards
Excellence through measurement

LGC GmbH, Im Biotechnologiepark, TGZ II, D-14943 Luckenwalde, Germany

5 pages

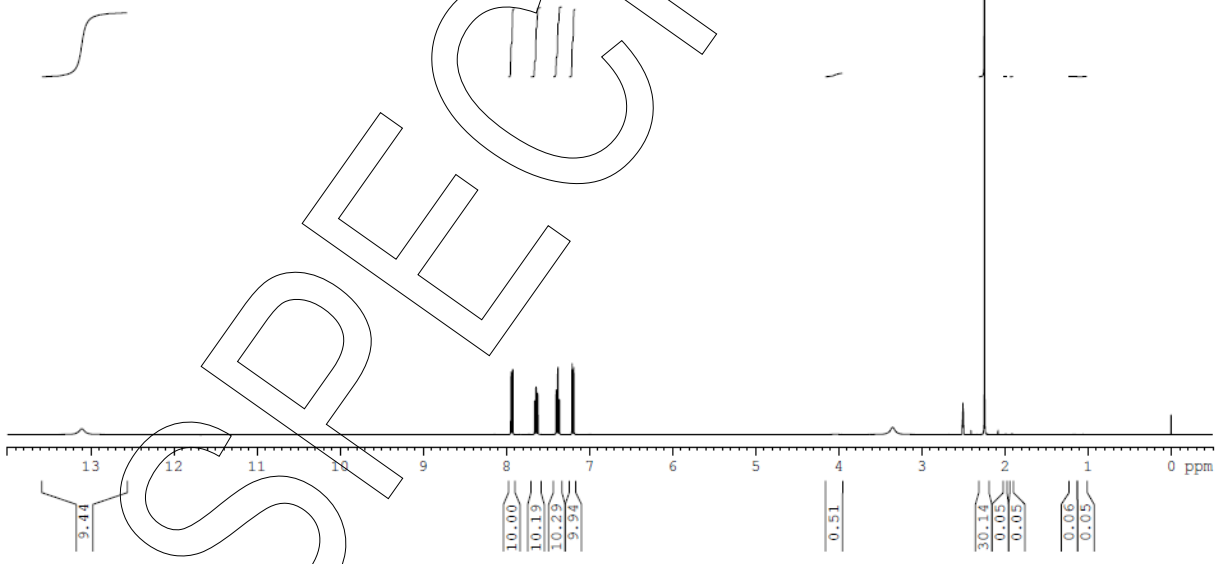
I. Identity

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

Ia. ^{1}H-NMR Spectrum

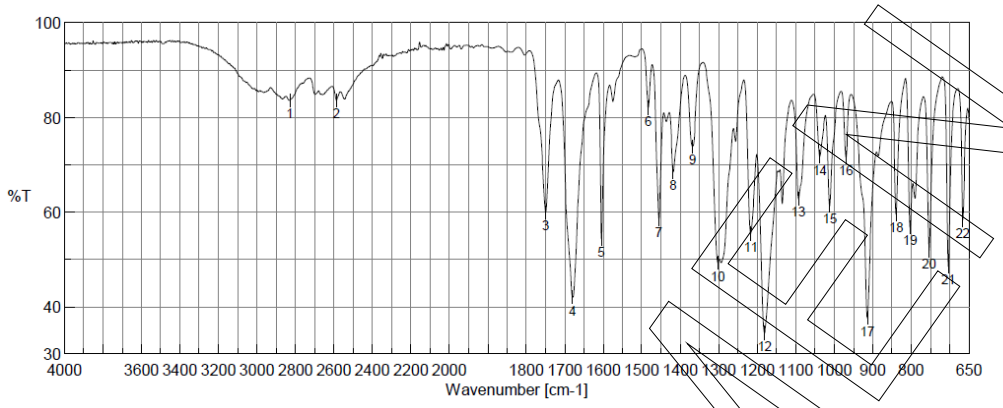
Conditions: 400 MHz, DMSO-d_6

The structure is confirmed with the signals of the spectrum and their interpretation.



Ib. IR Spectrum

Method: Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy



Result of Peak Picking

No.	Position	Intensity
1	2829.06	83.5596
2	2586.07	83.6256
3	1749.12	59.9302
4	1679.69	41.9729
5	1604.48	54.3318
6	1482.99	81.9735
7	1455.99	58.4031
8	1418.39	68.4198
9	1368.25	73.8508
10	1302.68	49.2439
11	1216.86	55.4635
12	1181.19	34.468
13	1093.44	62.7449
14	1037.52	71.6904
15	1011.48	61.3078
16	970.019	71.5415
17	914.093	37.5999
18	838.883	59.4437
19	803.206	56.6854
20	753.066	51.782
21	703.89	48.49
22	666.285	58.3467

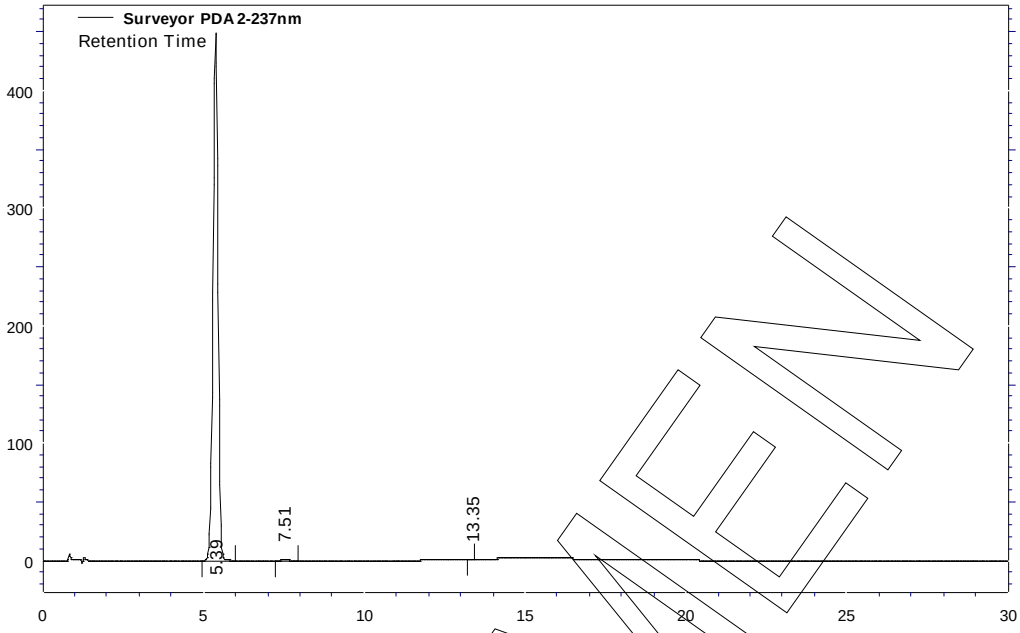
The signals of the IR spectrum and their interpretation are consistent with the structural formula.

II. Purity

The purity of the reference substance was analysed by high performance liquid chromatography (HPLC).

HPLC Conditions:

Column:	**Conditions:**	**Detector:**	**Injector:**
RP 60 Select B 5 µm, 125 x 4 mm	1.0 ml/min, 40 °C 0 – 8 min Water/Acetonitrile 80/20 8 – 13 min Water/Acetonitrile to 50/50 13 – 20 min Water/Acetonitrile to 80/20 20 – 30 min Water/Acetonitrile 80/20 (v/v); 0.1 % H_3PO_4	DAD 237 nm	Auto 4 µl; 0.1598 mg/ml in Acetonitrile + 0.1 % H_3PO_4



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	5.39	4741324	99.78
2	7.51	10062	0.21
3	13.35	389	0.01
Totals		4751775	100.00

For the calculation the system peaks were ignored. 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 %.

Results:

Average	99.77 %
Number of results	n=3
Standard deviation	0.01 %

III. Water Content

Method: Karl Fischer titration

Results:

Average	0.02 %
Number of results	n=3
Standard deviation	< 0.01 %

IV. Residual Solvents

Method: ^{1}H-NMR

Result:	0.09 %	Ethyl acetate
	0.06 %	Acetic acid
	0.04 %	Ethanol

V. Final Result

Total impurities (HPLC)	0.23 %
Water content	0.02 %
Residual solvents	0.19 %
Assay (100 % method) [1]	99.56 %

The assay is assessed to be 99.6 % ‘as is’

The assay 'as is' is equivalent to the assay based on the not anhydrous and not dried substance respectively.

[1] The calculation of the 100 % method follows the formula:

$$\text{Assay (\%)} = (100\ \% - \text{KF} - \text{RES}) * \frac{\text{Purity HPLC (\%)}}{100\ \%}$$

Water (KF) and Residual solvents (RES) are considered as absolute contributions, HPLC purity is considered as relative contribution.