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CERTIFICATE OF ANALYSIS

Product Name	4-Chlorobenzaldehyde, Analytical standard		
Synonyms	P-Chlorobenzaldehyde		
CAS No	104-88-1		
Product code	SYI0044	**Batch No**	LCHBF0109
Molecular Formula	C_7H_5ClO	**Molecular Weight**	140.57
Mfg. Date	Jan-26	**Expiry Date**	Dec-28
Storage Conditions	Store at room temperature, tightly closed container		

Test	Specification	Results
Description	White or Colorless powder	White powder
Boiling Point	214 °C	214 °C
Solubility	Soluble in Ether, Alcohol	Complies
Purity by GC	≥98.00%	99.97%
IR Spectrum	Identification by structure	Confirmed
1H NMR Spectra	Identification by structure	Confirmed
Mass Spectra	Identification by molecular weight	Confirmed

Reference to *USP* 30–*NF* 25 General Chapter <11>, "Reference Standards," As a result, noncompendial (secondary) reference standards require characterization data. This product should not use for clinical application.

Approved by
Dr. Gopinath PH. D

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Computer Generated document, Does not require any Signature.

Synthicure Laboratories LLP, 5-5-35/276A/NR, Sakthipuram Industrial Road, Prashanth Nagar, IDA Kukatpally, Hyderabad-500072 Telangana, India.

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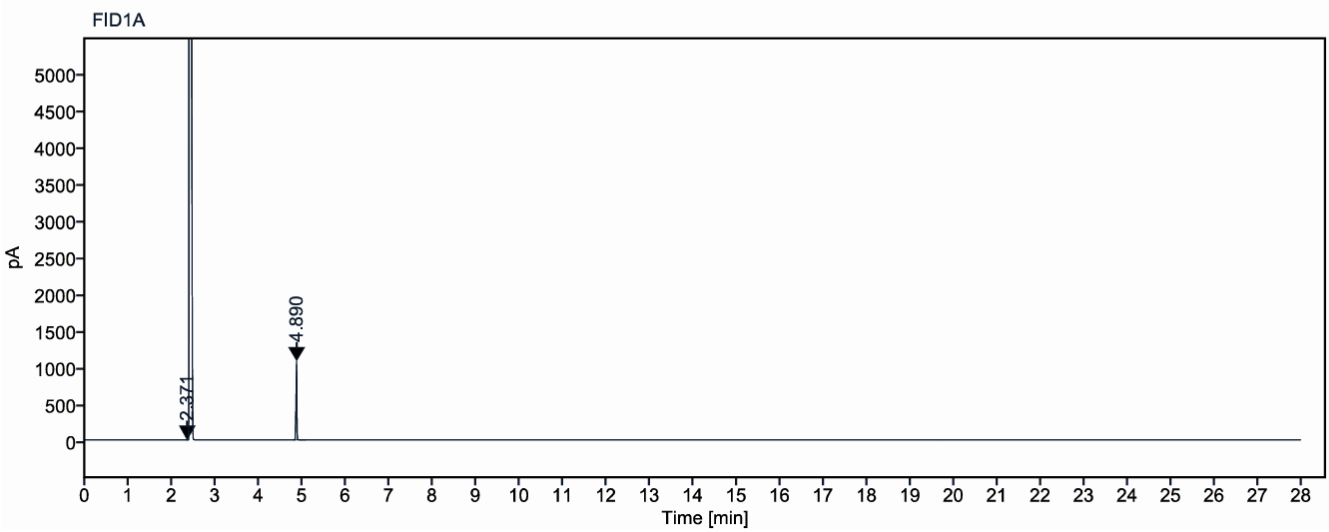
ANALYTICAL GC REPORT

Agilent

Data file:	LCHBF0109.dx
Method Name:	HP-5-GENERAL-METHOD.amx
Sample Name:	LCHBF0109
Injection Acquired Date	2026-01-09 09:43:15+05:30
Injection Processed Date	2026-01-09 10:18:38+05:30
Inj. volume:	0.500 µL
Vial Number:	107
Data File Directory:	/2026/JAN-2026/Results/09012026/20260109 074028002.rslt
Injection Column Name	HP-5
Instrument ID	SA/AD/INS/037



RT[MIN]	AREA	AREA %
2.371	0.470	0.03
4.890	1624.571	99.97

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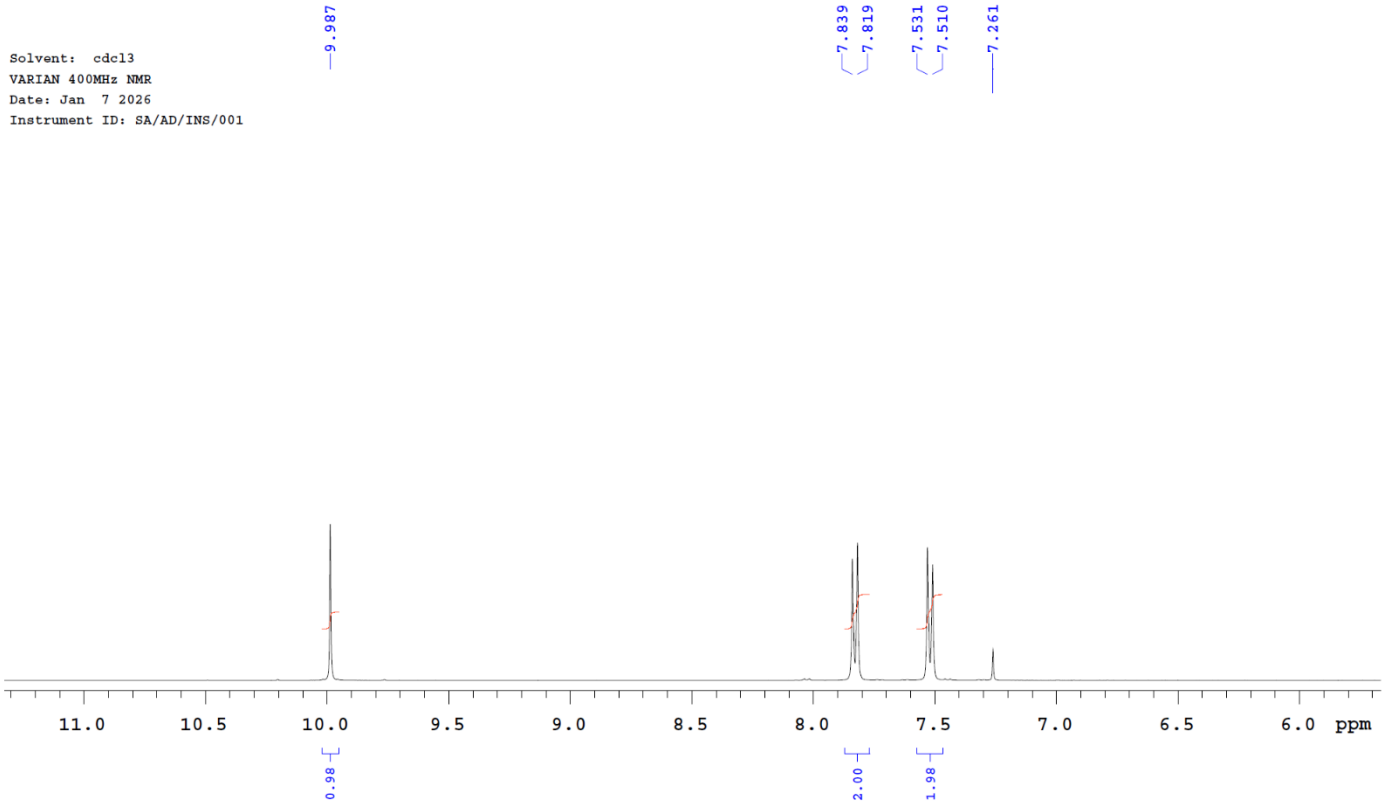
Identification by NMR: H1NMR

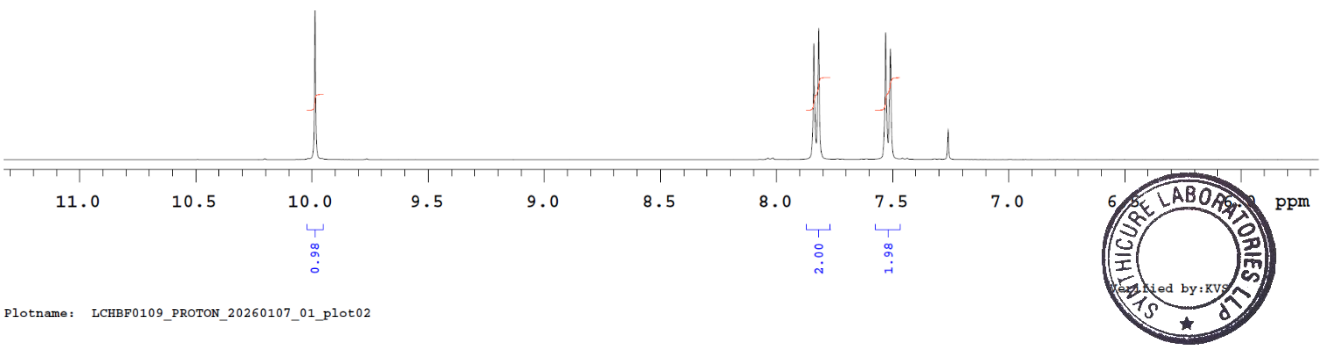
Sample Code: LCHBF0109

Solvent: cdcl3
VARIAN 400MHz NMR
Date: Jan 7 2026
Instrument ID: SA/AD/INS/001



Sample Code: LCHBF0109

Solvent: cdcl3
VARIAN 400MHz NMR
Date: Jan 7 2026
Instrument ID: SA/AD/INS/001



Plotname: LCHBF0109_PROTON_20260107_01_plot02

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Verified by:KVS

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Identification by NMR: H1NMR

```
expl  PROTON

      SAMPLE           PRESATURATION
date    Jan  7 2026  satmode          n
solvent       cdcl3  wet              n
file /home/varian/-       SPECIAL
data/2026/Jan/LCHB- temp       not used
F0109_20260107_01/- gain             44
LCHBF0109_PROTON_2- spin              0
    0260107_01.fid  hst           0.008
   ACQUISITION      pw90         13.000
sw          7183.9  alfa         10.000
at           4.000        FLAGS
np           57472  il               n
fb            4000  in               n
bs               2  dp               y
d1           1.000  hs              nn
nt             128      PROCESSING
ct              20  lb            0.50
   TRANSMITTER      fn         not used
tn              H1       DISPLAY
sfrq       399.689  sp          -792.5
tof          799.4  wp          7183.7
tpwr            59  rfl          792.8
pw           6.500  rfp             0
    DECOUPLER       rp          -135.3
dn             C13  lp              0
dof              0         PLOT
dm             nnn  wc            268
decwave W40_GATB-0- sc              0
                12  vs             52
dpwr            35  th              2
dmf          29412  ai  cdc  ph
```

INDEX	FREQUENCY	PPM	HEIGHT
1	3991.6	9.987	30.4
2	3133.3	7.839	23.6
3	3125.0	7.819	26.8
4	3009.9	7.531	25.9
5	3001.6	7.510	22.5
6	2902.2	7.261	6.0

Plotname: LCHBF0109_PROTON_20260107_01_plot03

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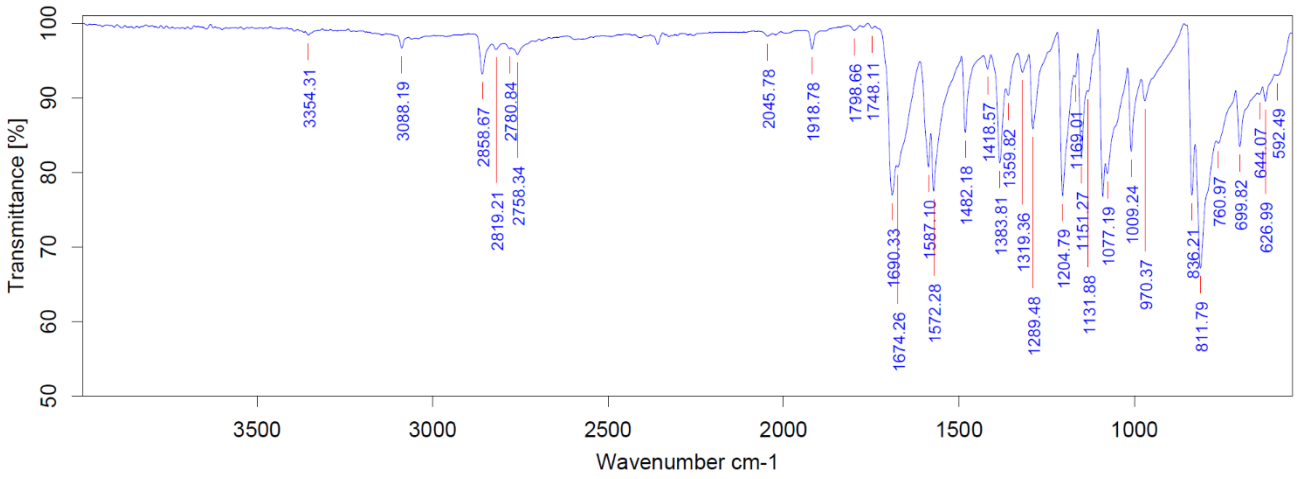
Identification by Infrared Spectroscopy (IR)



Path/File Name:D:\2026\JAN-2026/LCHBF0109.0

Sample Name:LCHBF0109

Lot No./Batch No:LCHBF0109

Date & Time:1/7/2026,6:47:06 PM

Operator Name:SPARK

Experiment:JANUARY-2026.XPM

Resolution:2

Sample Scans:32

Frequency Range:4000 to 550

- "D:\2026\JAN-2026\LCHBF0109.0" 1
  - Peak Table TR
    - Peak Picking

Peak Picking	Values
Method:	Standard
Searched for minima:	Yes
Number of peaks:	35
Sensitivity > [%]:	10.000000
From:	4000.000000
to:	400.000000
Absolute peak height >	0.000000
Relative peak height < [%]	0.000000
Absolute peak height <	0.000000

Wavenumber	Abs. intensity	Rel. intensity	Width	Found if threshold <	Shoulder
2858.6738	0.932	0.068	23.7634	20.451160	0
1690.3295	0.770	0.229	61.7495	66.526703	0
1587.1014	0.807	0.066	51.4140	13.771545	0
1572.2807	0.774	0.178	43.9824	53.055420	0
1482.1758	0.854	0.103	12.5134	31.163467	0
1383.8149	0.813	0.149	17.6885	44.139164	0
1289.4778	0.858	0.112	19.3090	30.918829	0
1204.7928	0.768	0.225	26.3015	68.112602	0
1151.2697	0.819	0.147	13.3715	42.893997	0
1090.4415	0.767	0.232	54.0778	70.722771	0
1009.2370	0.828	0.116	13.5729	34.197155	0
836.2073	0.770	0.114	34.7202	20.615318	0
811.7883	0.672	0.272	41.9614	79.050056	0
699.8199	0.835	0.077	14.4645	22.841160	0
3088.1903	0.967	0.021	13.7117	98.745056	0
2819.2086	0.965	0.007	13.3912	13.148480	0
2758.3404	0.958	0.016	35.1334	72.950150	0
2780.8444	0.966	0.002	65.4419	1.644922	0
1918.7829	0.965	0.027	11.3904	87.595200	0
2045.7810	0.983	0.007	38.0745	100.032860	0
1798.6608	0.991	0.008	17.9767	67.885735	0

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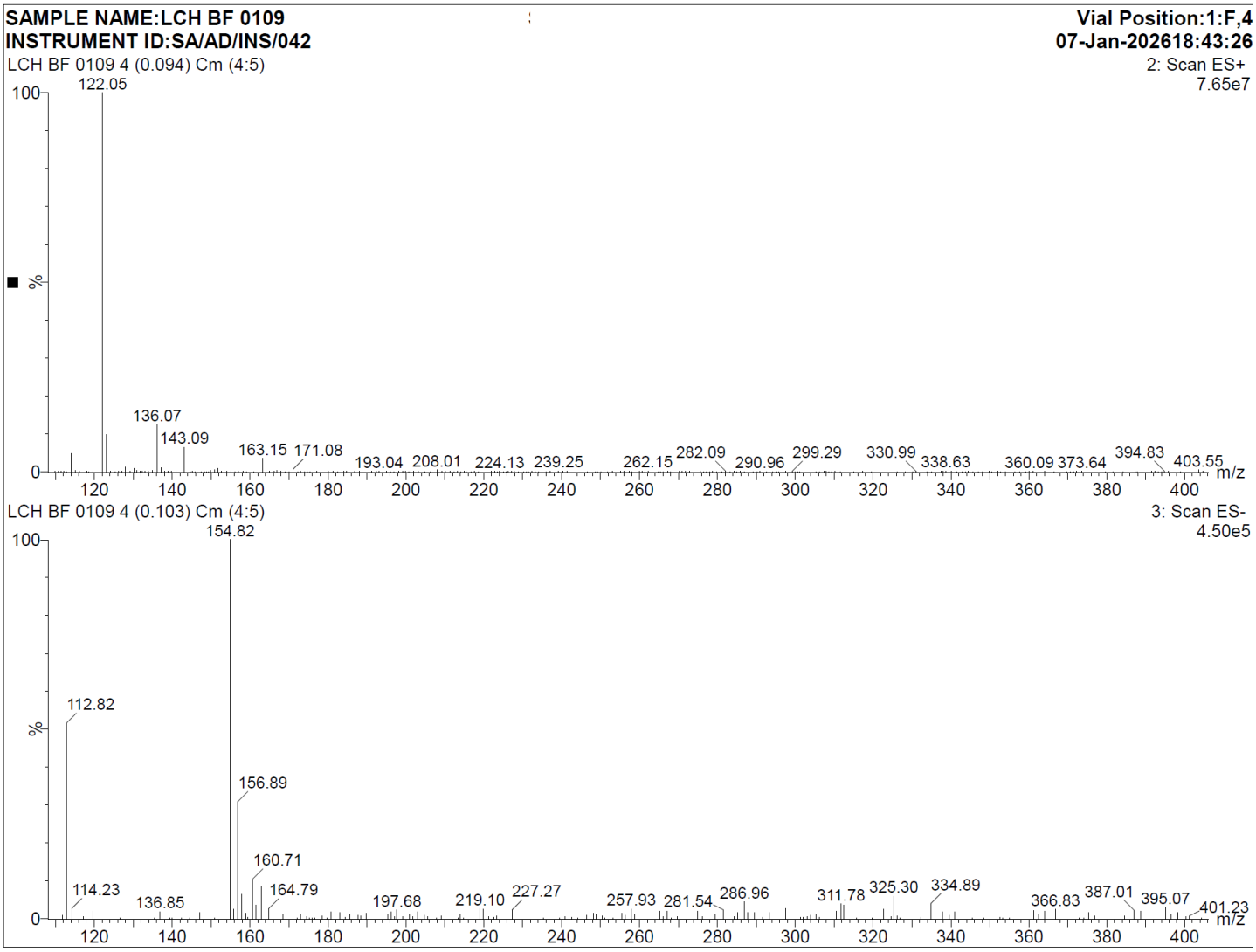
Identification by Mass spectrometry (MS)



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