

Certificate of Analysis

Acetic acid

PurTech Standard for GC

(Secondary Reference Standard)

Product Number	PSI056	CAS No.	64-19-7
Brand	PureSynth	Lot No.	3194H1
Molecular Formula	C ₂ H ₄ O ₂	Date of Mfg.	November, 2023
Molecular Weight	60.05 g/mol	Date of Exp.	October, 2026

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Clarity	Clear	Clear
Assay (GC-FID)	≥ 99.5 %	99.95 %
Density	1.02-1.06 g/cm ³	1.04 g/cm ³
Water (by KF)	NMT 0.500 %	0.4078 %
Identification by ¹ H NMR	Conform to structure	Conforms
Identification by GC-MS	Conform to molecular	Conforms
Identification by IR	Conform to structure	Conforms

***Traceable to USP Reference Standard 1005706, current lot: R12880.**

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 GC-FID

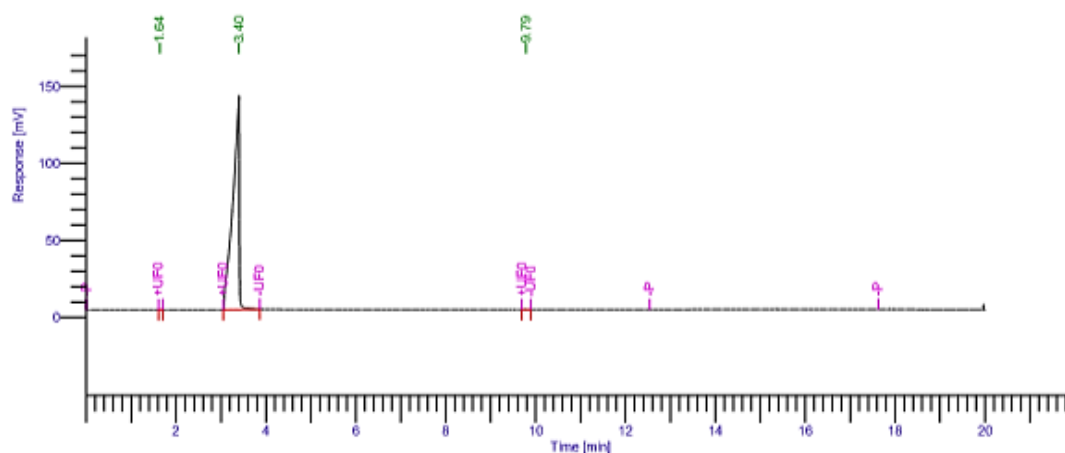
METHOD: G.C- FID conditions:

Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

Instrument: PerkinElmer, GC 2014,

Detector: FID, **Carrier gas:** Nitrogen

Temp programming: Initial 50°C hold for 1min, 5°C Ramp/ min., 100 °C hold for 1 min., 25°C Ramp up to 250°C hold for 2 min., Run time 20 min.



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		1.639	162.63	71.81	0.01
2		3.401	1379830.27	138642.12	99.95
3		9.787	534.13	136.07	0.04
			1380527.02	138850.00	100.00

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.95%

IDENTIFICATION TESTS

GC-MS Spectrum:

METHOD: G.C-MS conditions:

Column: Agilent Technologies, Elite -5MS, 30 m X 0.25 mm, 1.0micron

Instrument: Perkin Elmer, **Carrier gas:** Helium

Source Temp.: 230°C, **Transfer line:** 250°C

Inlet Temp.: 180°C, **Diluent:** Methanol

Source energy: 70eV

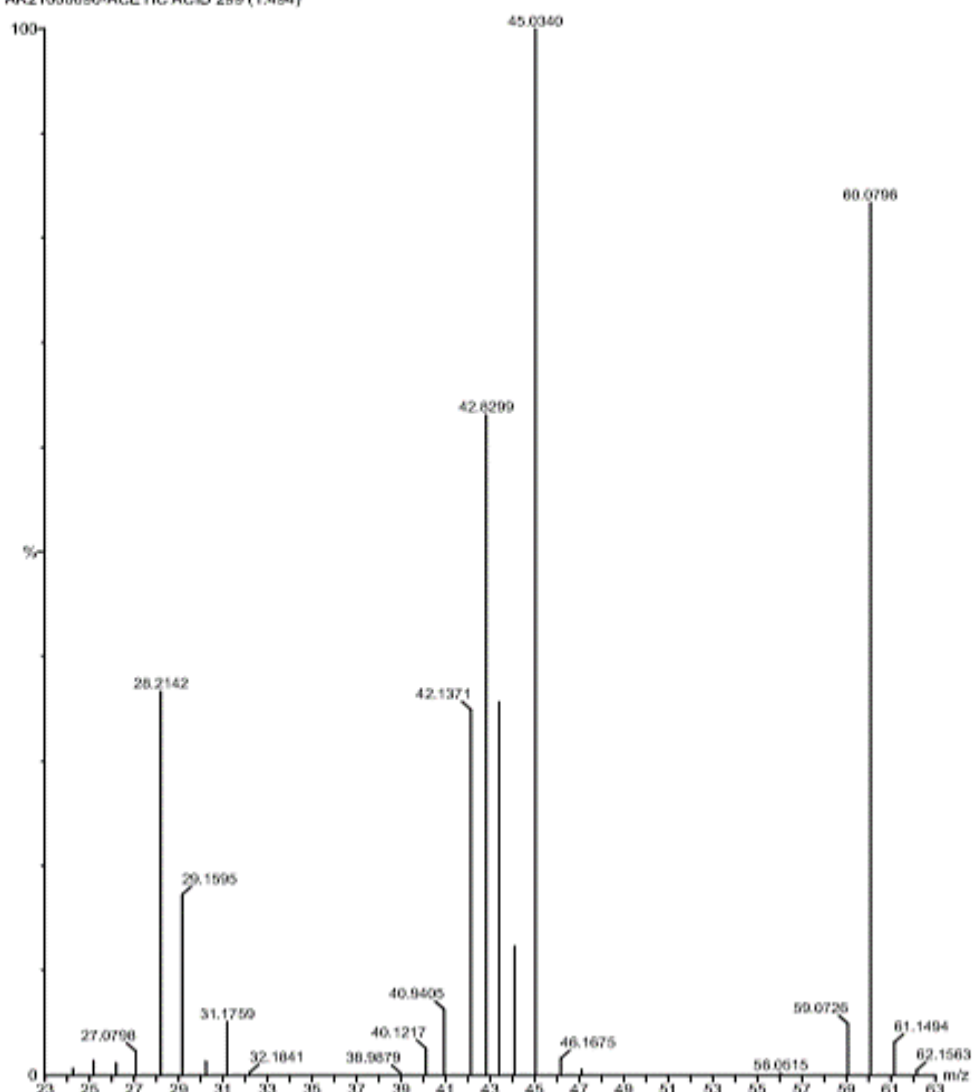
Mass by GC-MS:

Product Name: Acetic acid

Product Code: PSI056

ACETIC ACID

AR21000890-ACETIC ACID 289 (1.494)



Identification by GC-MS: Conform to molecular

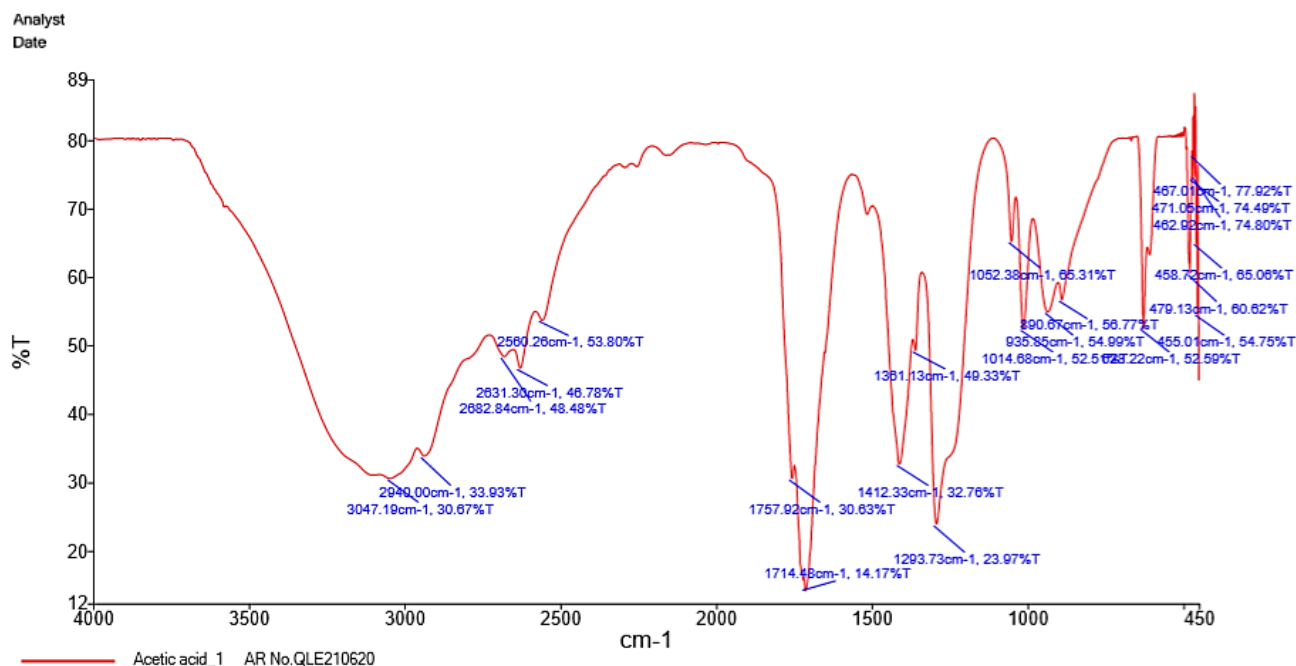
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Infrared spectrum:

Product Name: Acetic acid

Product Code: PSI056



Source Spectra Results	
Spectrum Name	Number Of Peaks
Acetic acid_1	22

List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3047.19	30.67
2	2940.00	33.93
3	2682.84	48.48
4	2631.30	46.78
5	2560.26	53.80
6	1757.92	30.63
7	1714.48	14.17
8	1412.33	32.76
9	1361.13	49.33
10	1293.73	23.97
11	1052.38	65.31
12	1014.68	52.51
13	935.85	54.99
14	890.67	56.77
15	628.22	52.59
16	479.13	60.62
17	471.05	74.49
18	467.01	77.92
19	462.92	74.80
20	458.72	65.06
21	455.01	54.75
22	451.00	45.14

Identification by IR: Conform to structure

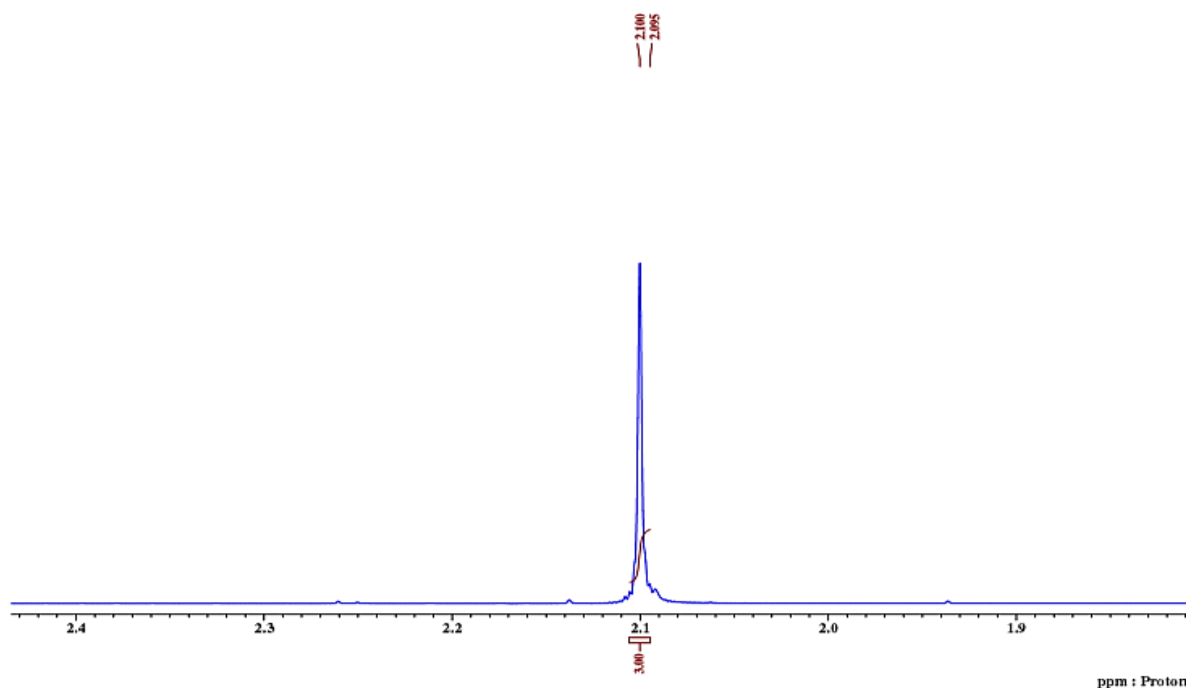
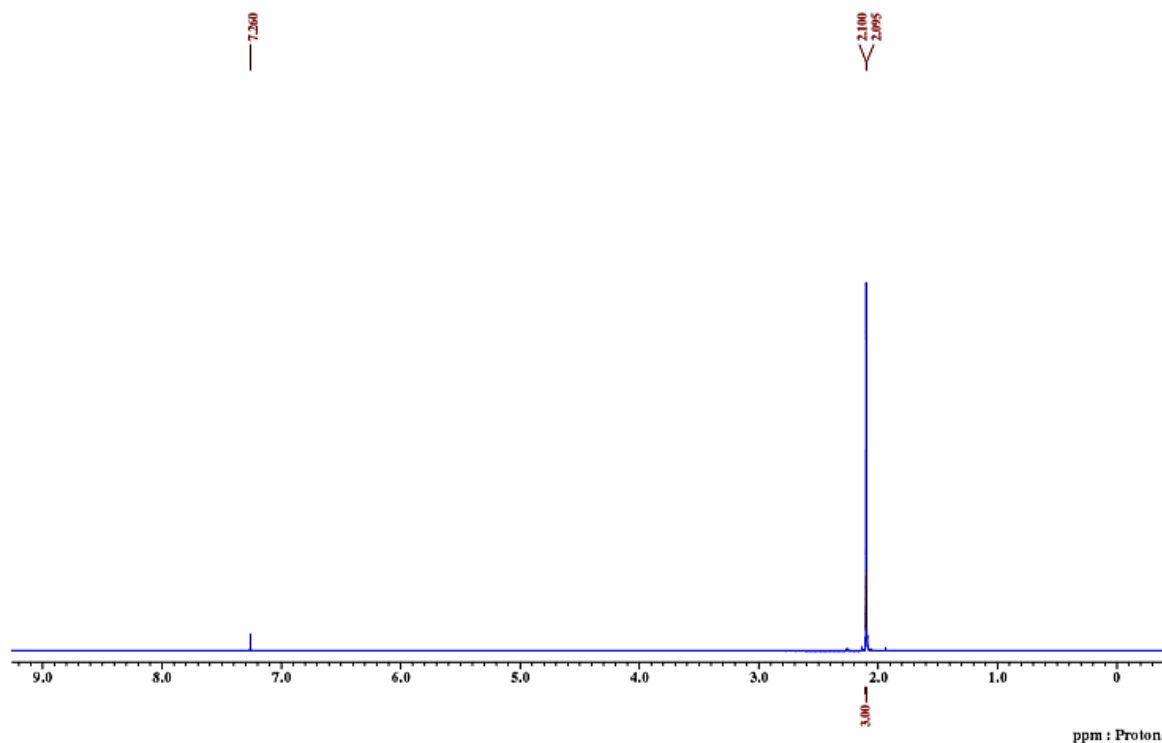
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¹H NMR Spectrum:

Product Name: Acetic acid

Product Code: PSI056



Identification by ¹H NMR: Conform to structure

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Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSI056) = **0.4078%**

Approved By
Head - Technical

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