

Certificate of Analysis

tert-Butyl acetate

PurCert Standard for GC

Product Number	PSR37098	CAS No.	540-88-5
Brand	PureSynth	Lot No.	OL03
Molecular Formula	C ₆ H ₁₂ O ₂	Date of Mfg.	March.2022
Molecular Weight	116.16 g/mol	Date of Exp.	February.2026

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Clarity	Clear	Clear
Assay (GC-FID)	≥ 99.5 %	99.91 %
Water (By KF)	NMT 0.5 %	0.144 %
Density	0.862-0.868 g/cm ³	0.866 g/cm ³
Identification by ¹ H NMR	Conforms to structure	Conforms
Identification by GC-MS	Conforms to molecular mass	Conforms
Identification by IR	Conforms to structure	Conforms

***Traceable to Internal Reference standard.**

Storage Condition: Store at ambient temperature and keep the container tightly closed.

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

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Assay by GC-FID

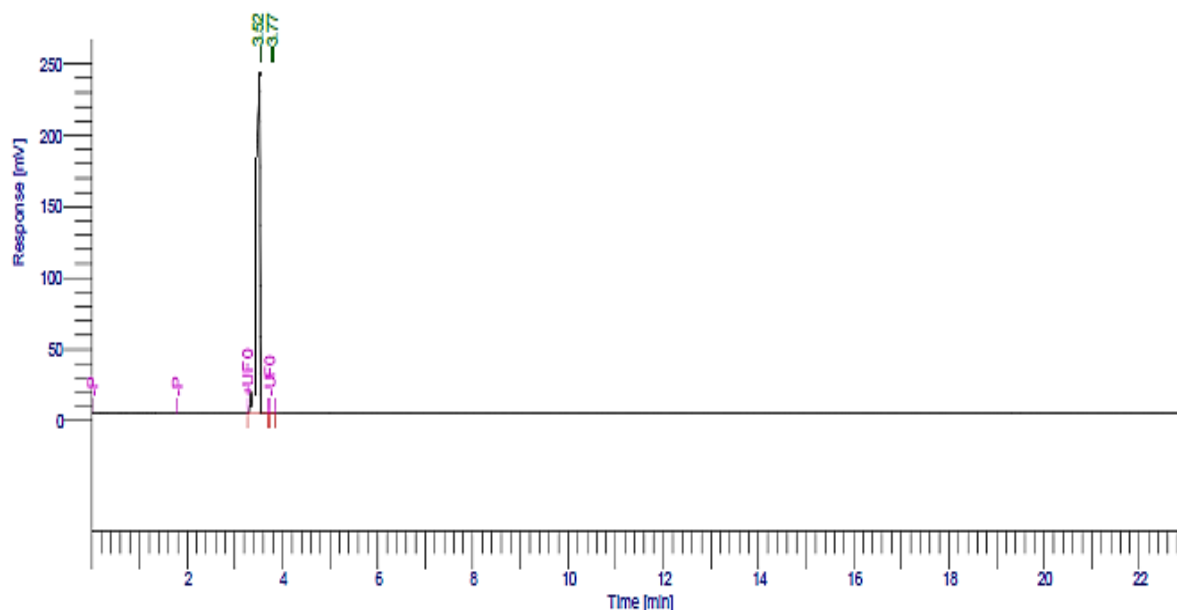
METHOD: G.C- FID conditions:

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		3.516	1570854.52	239075.20	99.91
2		3.767	774.50	450.76	0.05
			1571629.02	239525.96	100.00

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.91 %

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IDENTIFICATION TESTS

GC-MS Spectrum:

METHOD: GC-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

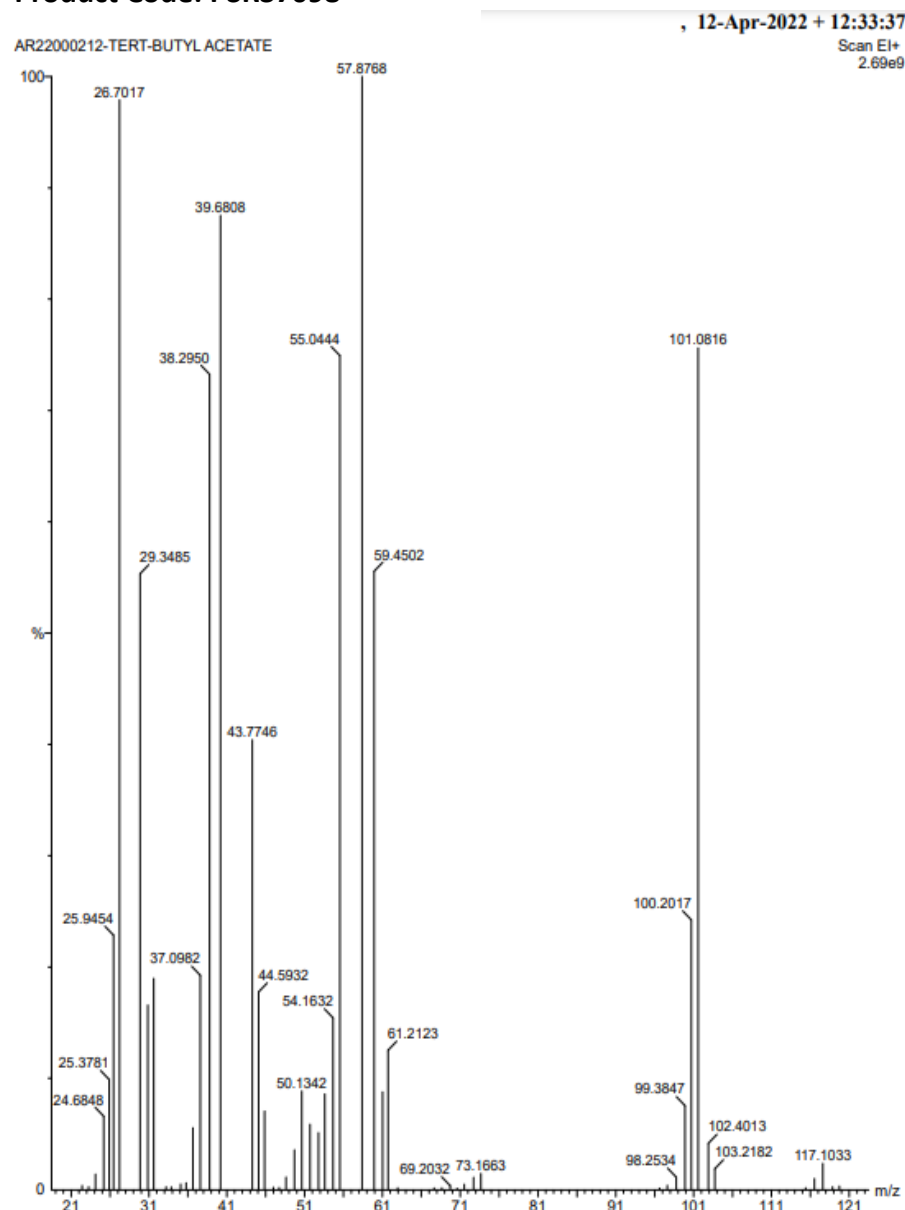
Inlet Temp.: 180°C, **Diluent:** Methanol

Source energy: 70eV

Mass by GC-MS:

Product Name: tert-Butyl acetate

Product Code: PSR37098



Identification by GC-MS: Conforms to molecular mass

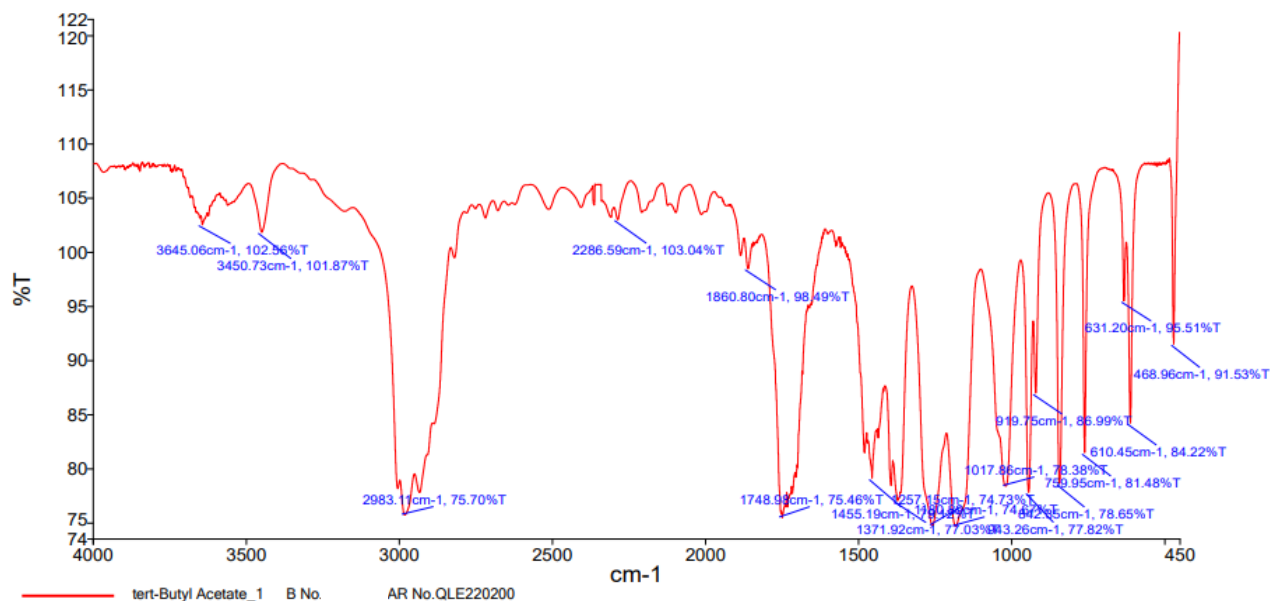
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Infrared spectrum:

Product Name: tert-Butyl acetate

Product Code: PSR37098



Source Spectra Results	
Spectrum Name	Number Of Peaks
tert-Butyl Acetate_1	18

List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3645.06	102.56
2	3450.73	101.87
3	2983.11	75.70
4	2286.59	103.04
5	1860.80	98.49
6	1748.98	75.46
7	1455.19	79.12
8	1371.92	77.03
9	1257.15	74.73
10	1180.89	74.67
11	1017.86	78.38
12	943.26	77.82
13	919.75	86.99
14	842.35	78.65
15	759.95	81.48
16	631.20	95.51
17	610.45	84.22
18	468.96	91.53

Identification by IR: Conforms to structure

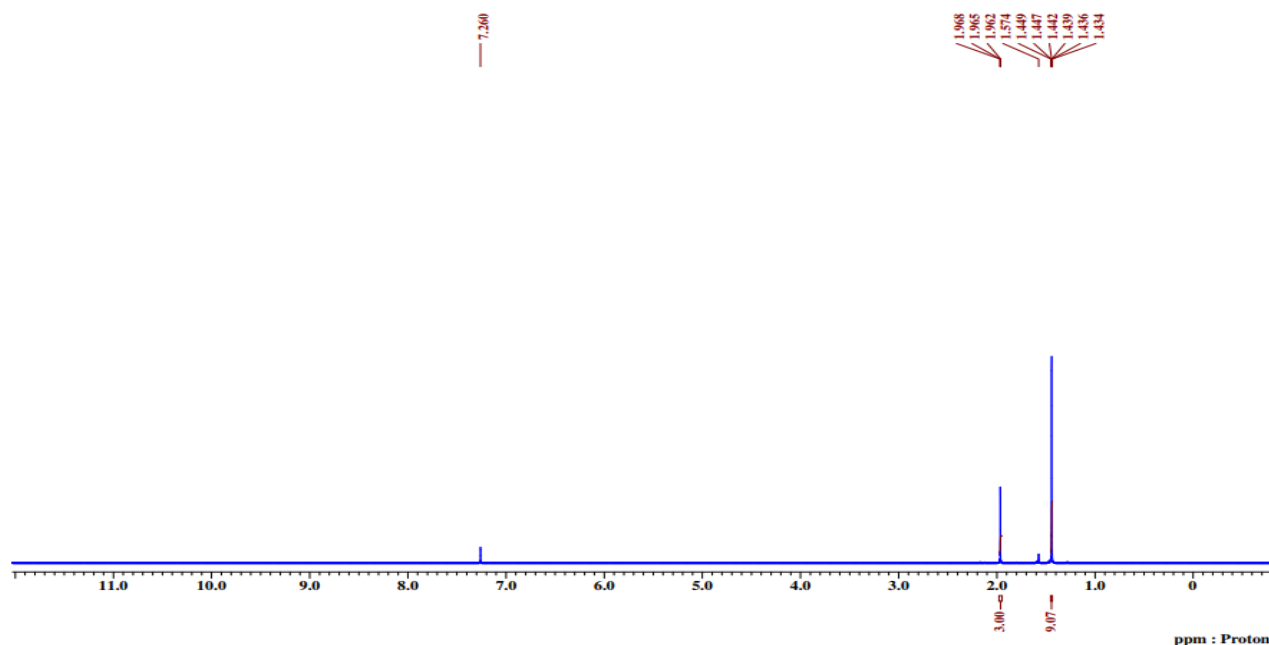
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¹H NMR Spectrum:

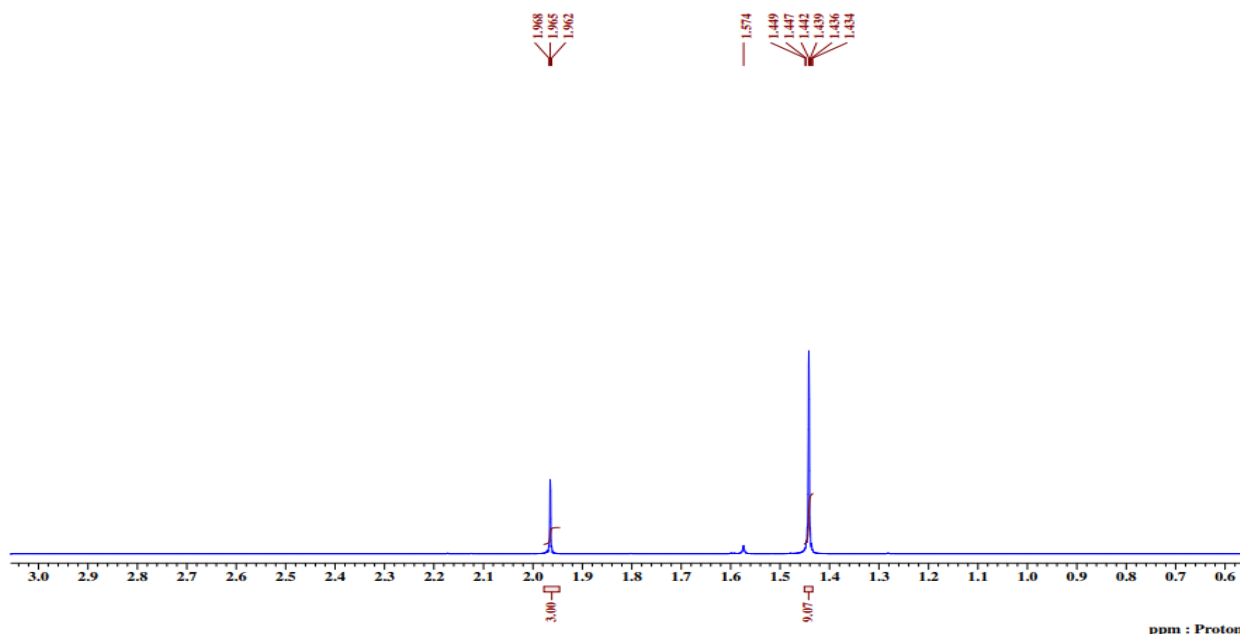
Product Name: tert-Butyl acetate

Product Code: PSR37098



Sample_Id	= tert-Butyl Acetate	Experiment	= proton.jpg	Relaxation_Delay	= 5[s]
Author	= delta	X_Domain	= Proton	Exp_Total	= 205.0[s]
Creation_Time	= 15-APR-2022 03:31:32	Dim_Title	= Proton		
Revision_Time	= 15-APR-2022 09:33:30	Solvent	= CHLOROFORM-D		
Experiment_Details		Scans	= 32		
Instrument	= JEOL[Delta V5.3.2]	Temp_Get	= 18.2[°C]		
Spectrometer	= JNM-ECZ400S/L1	X_Acq_Time	= 1.16916224[s]		

¹H NMR Spectrum: Expansion



Sample_Id	= tert-Butyl Acetate	Experiment	= proton.jpg	Relaxation_Delay	= 5[s]
Author	= delta	X_Domain	= Proton	Exp_Total	= 205.0[s]
Creation_Time	= 15-APR-2022 03:31:32	Dim_Title	= Proton		
Revision_Time	= 15-APR-2022 09:33:30	Solvent	= CHLOROFORM-D		
Experiment_Details		Scans	= 32		
Instrument	= JEOL[Delta V5.3.2]	Temp_Get	= 18.2[°C]		
Spectrometer	= JNM-ECZ400S/L1	X_Acq_Time	= 1.16916224[s]		

Identification by ¹H NMR: Conforms to structure

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Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSR37098) = **0.144 %**

Approved By
Head - Technical

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