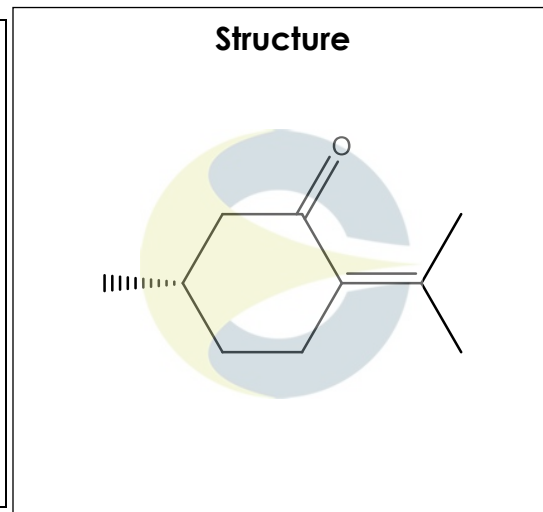


Certificate of Analysis
For Laboratory Use Only

PRODUCT NAME	S-(-)-Pulegone
PART NUMBER	00016406
STANDARD TYPE	Analytical Standard (AS)
LOT NUMBER	00016406-814
REPORT NUMBER	CDXA-RSS-6272-01
SAMPLE NUMBER	CDXA-14-5650
DATE OF SAMPLE	09/10/2014
DATE OF RE-EVALUATION	10/02/2018
DATE OF REPORT	10/29/2018



CHEMICAL NAMES	(S)-5-Methyl-2-(1-methylethylidene)-cyclohexanone; (S)-(-)-p-Menth-4(8)-en-3-one
CHEMICAL FORMULA	C ₁₀ H ₁₆ O
MOLECULAR WEIGHT (MW)	152.23
CHEMICAL FAMILY	Monoterpene
CAS NUMBER	[3391-90-0]
EC#(EINECS)	NA
RTECS	NA

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
GC	99.1-04-3.0-000120	NA	96.4%
Mass Spectrum	99.1-04-3.0-000120	Conforms	Conforms
Appearance	NA	NA	Oil

STORAGE CONDITIONS

STORAGE	+4 °C in a dry place.
EXPIRATION DATE	10/2023 under the above conditions.

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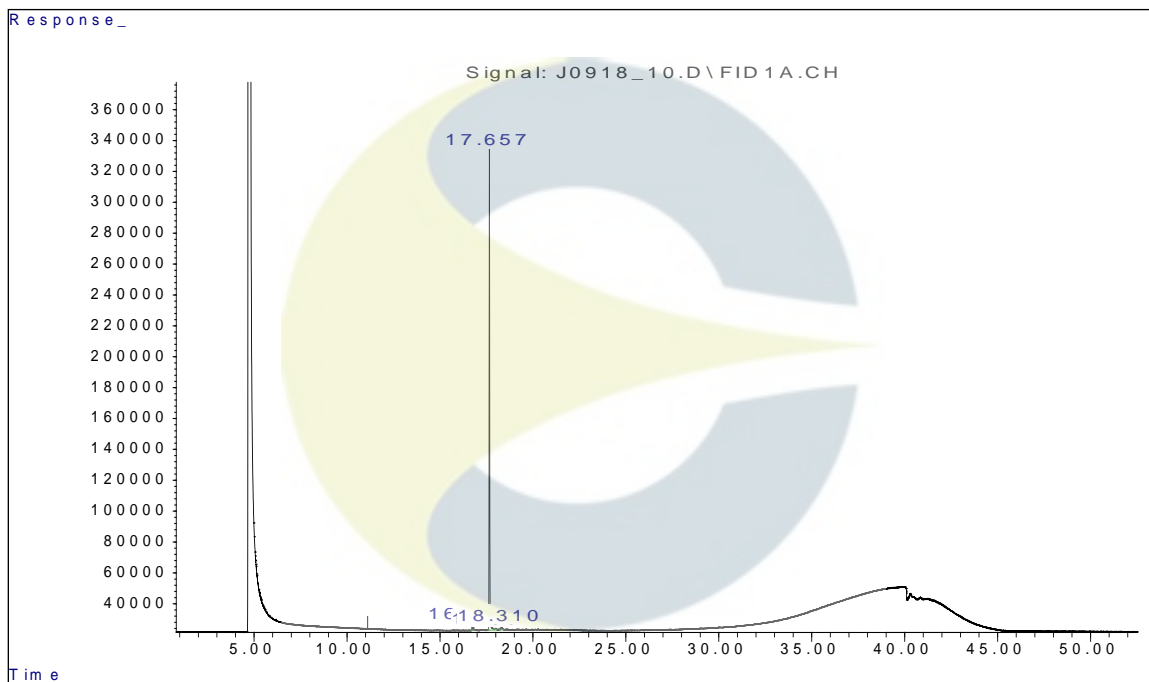
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ANALYTICAL CONDITIONS

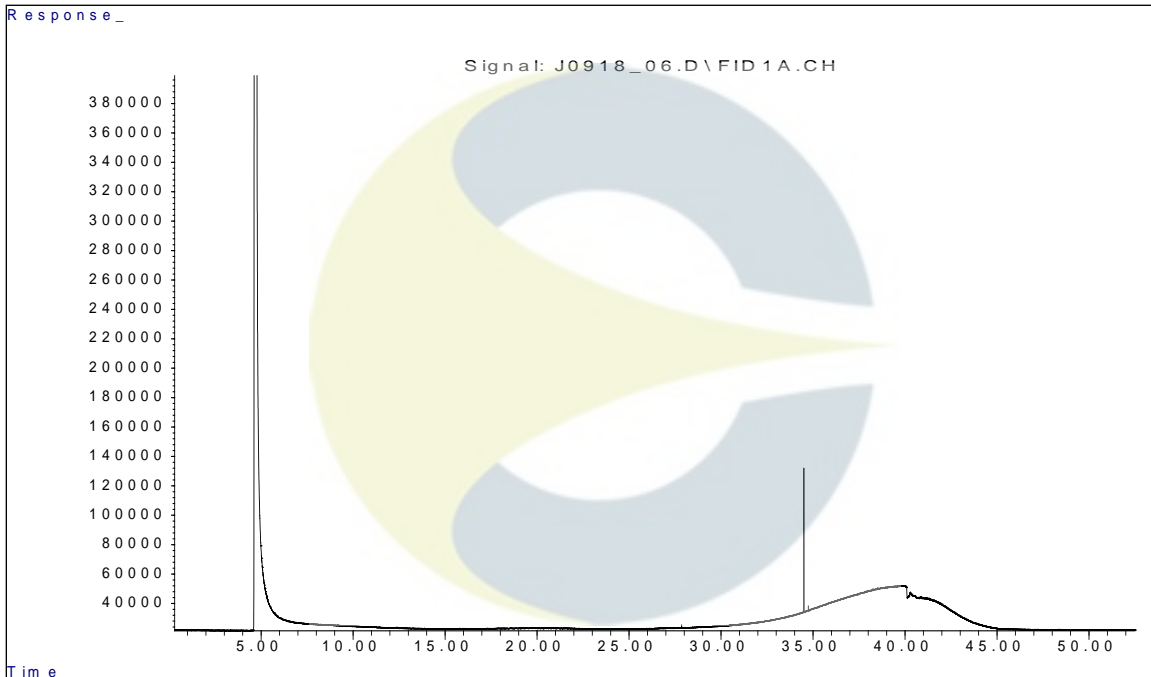
INSTRUMENT	AGILENT 6890N WITH FLAME IONIZATION DETECTOR (FID) AND AGILENT 5973N MASS SELECTIVE DETECTOR (MSD)
COLUMN	Phenomenex Zebron ZB-5HT Inferno, 30 m x 0.32 mm x 0.25 µm; connected to an MXT Y-union, connected to a Restek Siltek deactivated guard column: 5 m x 0.32 mm to FID; and a 3 m x 100 µm transfer line to MSD.
CARRIER GAS	Helium
COLUMN TEMP.	Isothermic 40 °C for 5.0 minutes, then increasing at 10.0 °C/minute to 340 °C. Hold at 340 °C for 5.0 minutes.
FLOW RATE	2.0 mL/minute
INJECTOR TEMP.	300 °C
INJECTOR SPLIT RATIO	50:1
INJECTION VOL.	1.0 µL
INJECTION CONC.	4.3 mg/mL in Methanol
DETECTION	FID (350 °C) & MSD (300 °C)

GC CHROMATOGRAM OF S-(-)-PULEGONE (CDXA-14-5650)

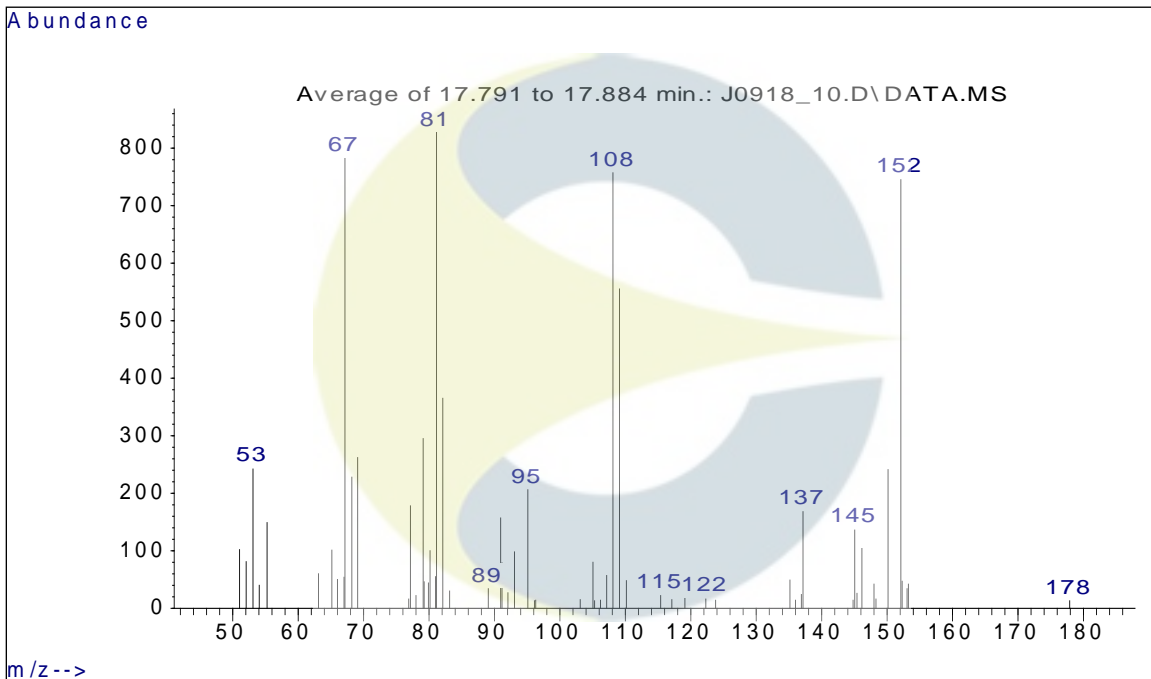


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GC CHROMATOGRAM OF DILUENT BLANK



MASS SPECTRUM OF S-(-)-PULEGONE (CDXA-14-5650)



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REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	10/28/2014	New report
01	10/29/2018	Passed reevaluation by GC-FID/MS. Updated analytical conditions, results, chromatograms, chemical family, chemical structure format, and expiration date. Removed melting point.

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