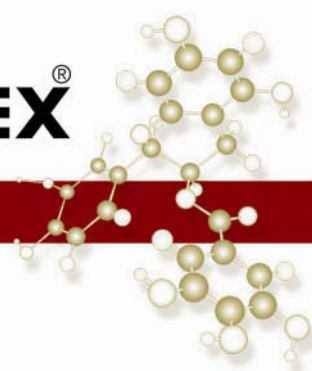
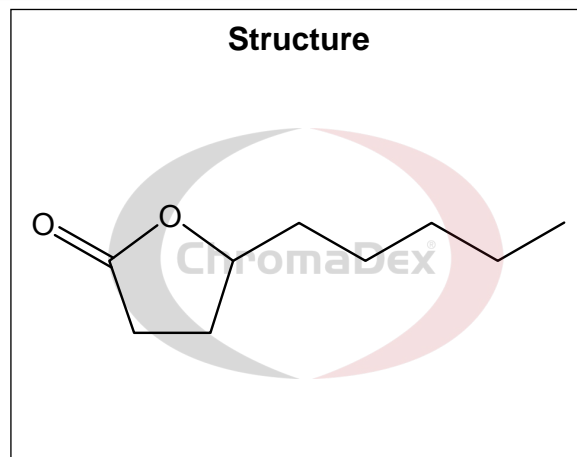


Certificate of Analysis

FOR LABORATORY USE ONLY



PRODUCT NAME	gamma-Nonalacone
PART NUMBER	00014487
STANDARD TYPE	Analytical Standard (AS)
LOT NUMBER	00014487-M01
REPORT NUMBER	CDXA-RSS-5914-00
SAMPLE NUMBER	CDXA-13-8590
DATE OF SAMPLE	11/14/2013
DATE OF REPORT	12/02/2013



CHEMICAL NAMES	4-Nonanolide; 4-Pentyl-butanolide; γ-Amylbutyrolactone; γ-Nonanolide; Aldehyde C-18; Apricolin; Cocos aldehyde; Dihydro-5-pentyl-2(3H)-furanone; Prunolide
CHEMICAL FORMULA	C ₉ H ₁₆ O ₂
MOLECULAR WEIGHT (MW)	156.22
PUBLISHED MELTING POINT	NA
CHEMICAL FAMILY	Oils
CAS NUMBER	[104-61-0]
EINECS	203-219-1
RTECS	LU3675000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
GC	See below	NA	98.4%
Mass Spectrum	See below	Conforms	Conforms
Appearance	NA	NA	Liquid

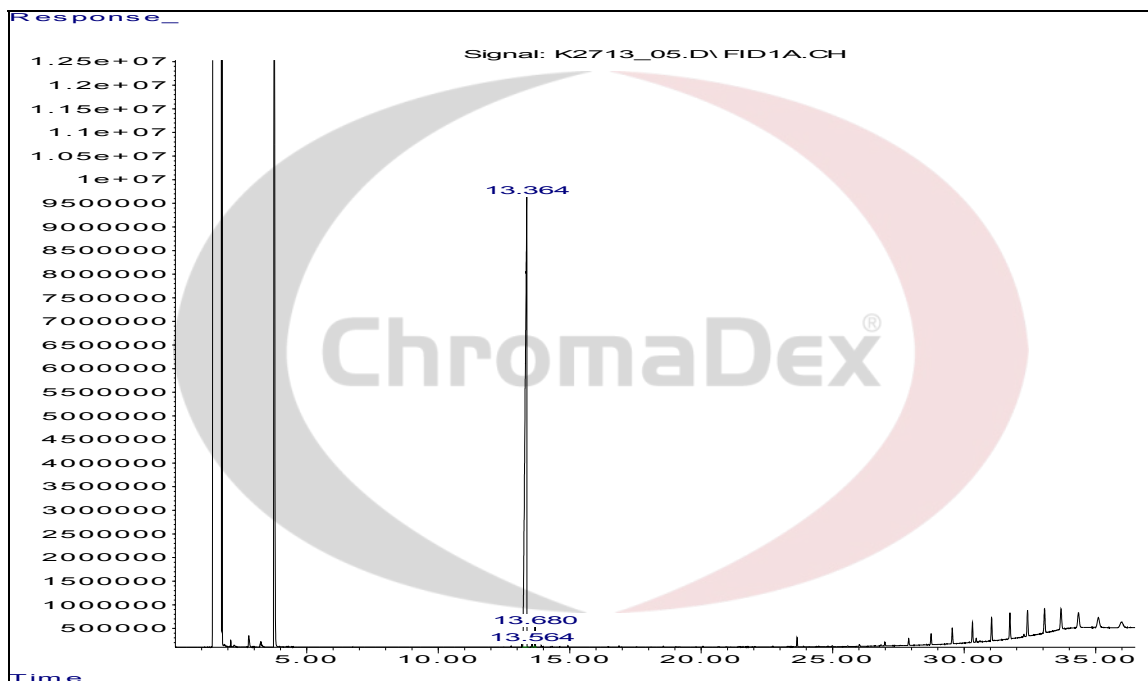
STORAGE CONDITIONS

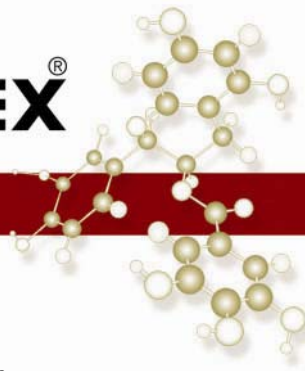
STORAGE	+4 °C in a dry place.
EXPIRATION DATE	11/2018 under the above conditions.

ANALYTICAL CONDITIONS

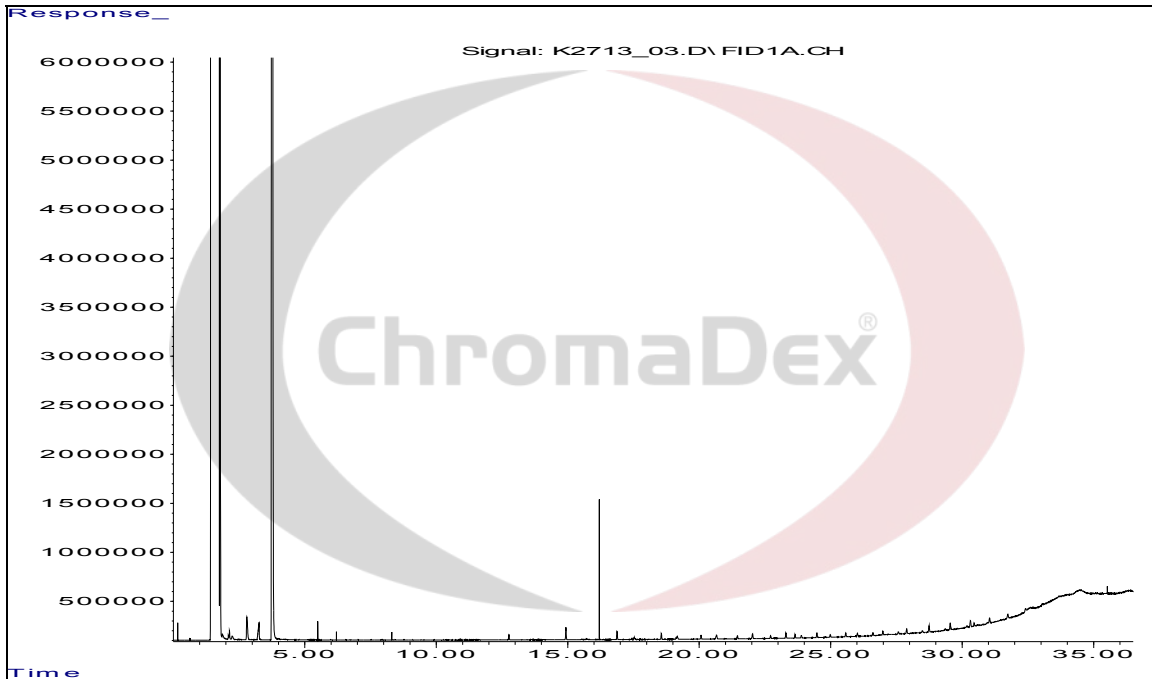
INSTRUMENT	AGILENT 6890N WITH FID AND MSD (LEONARDO)
COLUMN	ZB-5HT, 30 m x 0.32 mm x 0.25 µm, S/N 119085
CARRIER GAS	Helium
COLUMN TEMP.	35 °C for 2.0 minutes, then increasing at 10 °C/minute to 350 °C. Hold at 350 °C for 3.0 minutes.
FLOW RATE	2.2 mL/minute
INJECTOR TEMP.	250 °C
INJECTOR SPLIT RATIO	20:1
INJECTION VOLUME	1.0 µL
INJECTION SOLVENT	2.4 mg/mL in Methanol
DETECTION	FID (250°C) & MSD (250°C)

GC CHROMATOGRAM OF GAMMA-NONALACONE (CDXA-13-8590)

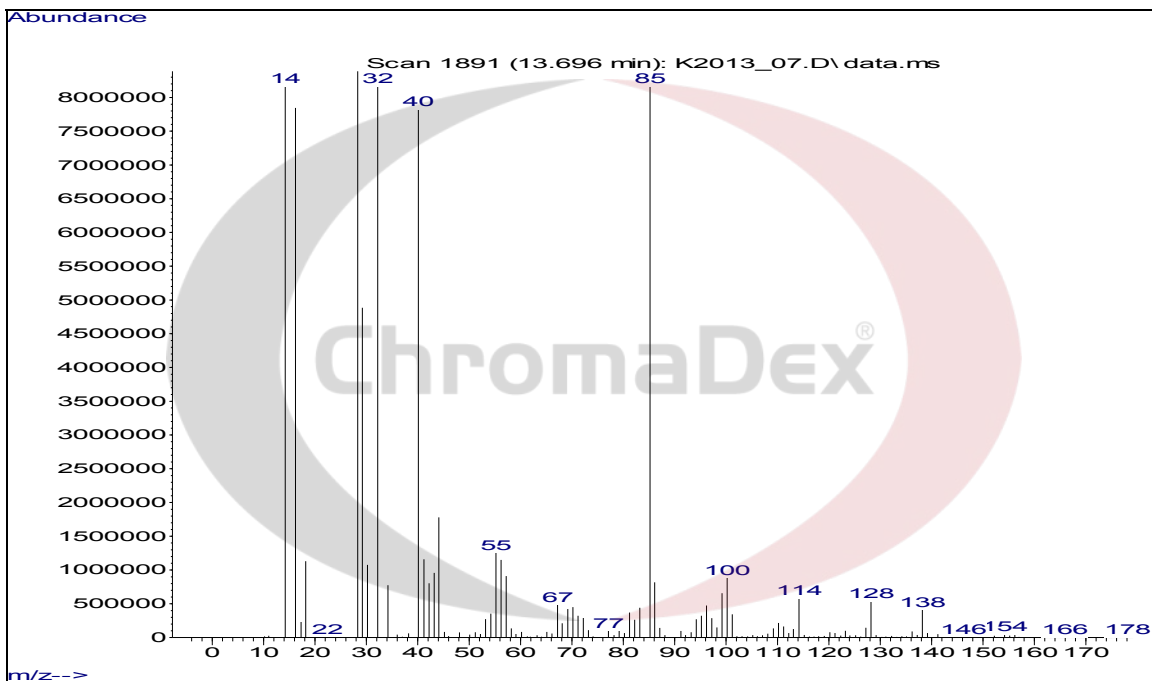


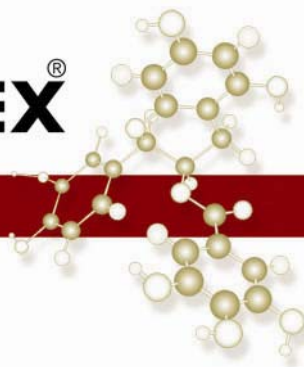


GC CHROMATOGRAM OF DILUENT BLANK



MASS SPECTRUM OF GAMMA-NONALACONE (CDXA-13-8590)





REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	12/02/2013	New report