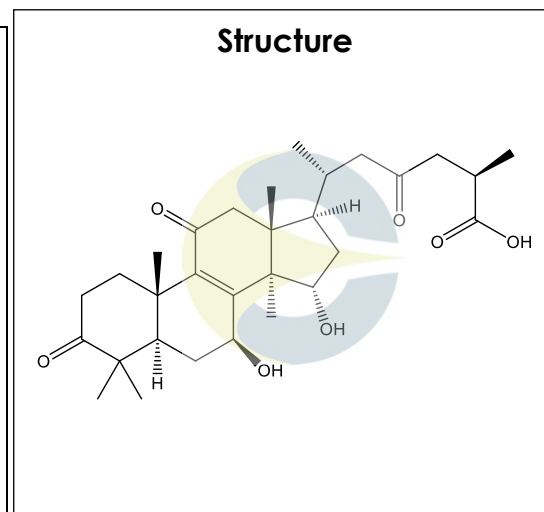


Certificate of Analysis
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PRODUCT NAME	Ganoderic acid A
PART NUMBER	00007057
STANDARD TYPE	Primary (P)
LOT NUMBER	00007057-915
REPORT NUMBER	CDXA-RSS-6818-01
SAMPLE NUMBER	CDXA-15-007823
DATE OF SAMPLE	09/29/2015
DATE OF RE-EVALUATION	12/12/2019
DATE OF REPORT	01/07/2020



CHEMICAL NAMES	(7 β ,15 α ,25R)-7,15-Dihydroxy-3,11,23-trioxo-lanost-8-en-26-oic acid
CHEMICAL FORMULA	C ₃₀ H ₄₄ O ₇
MOLECULAR WEIGHT (MW)	516.67
CHEMICAL FAMILY	Triterpenes
CAS NUMBER	[81907-62-2]
EC#(EINECS)	NA
RTECS	NA

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	95.9%
HPLC	0.700.10.2.METH22	NA	96.0%
NMR	99.1-CD-1.0-000122	Conforms to structure	Conforms to structure
Mass Spectrum	DIRECT INFUSION: ESI (-)	Conforms	Conforms
Residual Solvent	99.1-CD-8.0-000115	NA	MeOH: 0.1 %
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

ADJUSTED PURITY: 95.9% IS BASED ON (100 - 0.1 SOLVENTS - 0.0 WATER) X 96.0% HPLC

STORAGE CONDITIONS

STORAGE	-20°C in a dry place.
EXPIRATION DATE	12/2024 under the above conditions.

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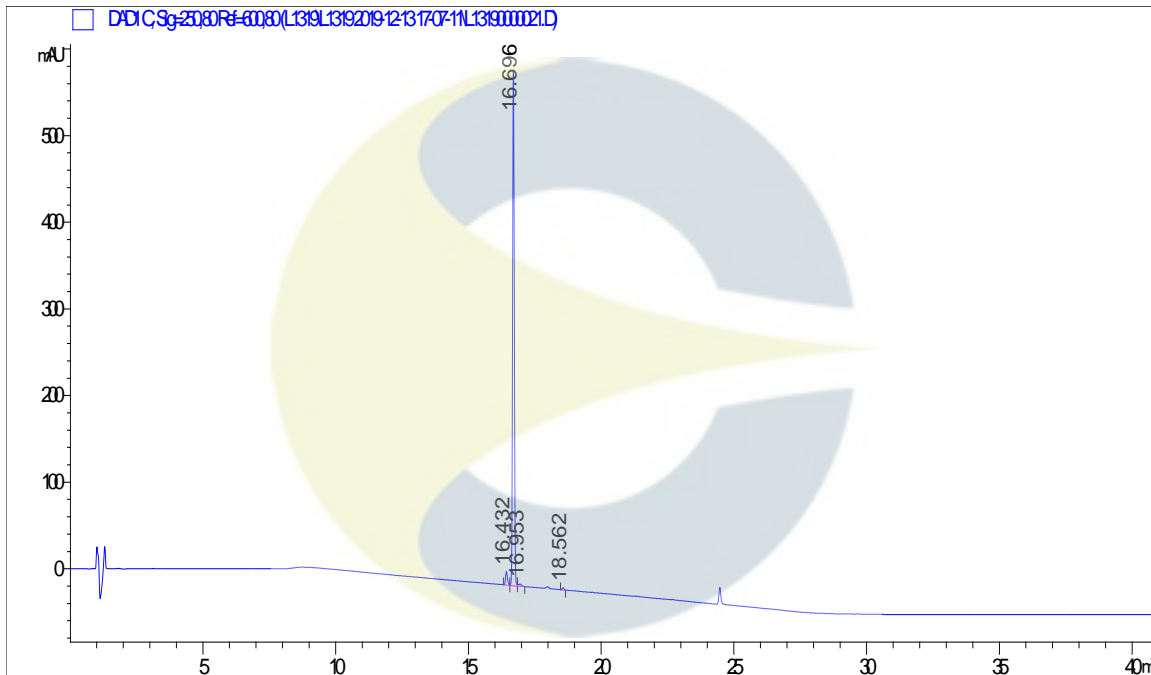
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ANALYTICAL CONDITIONS

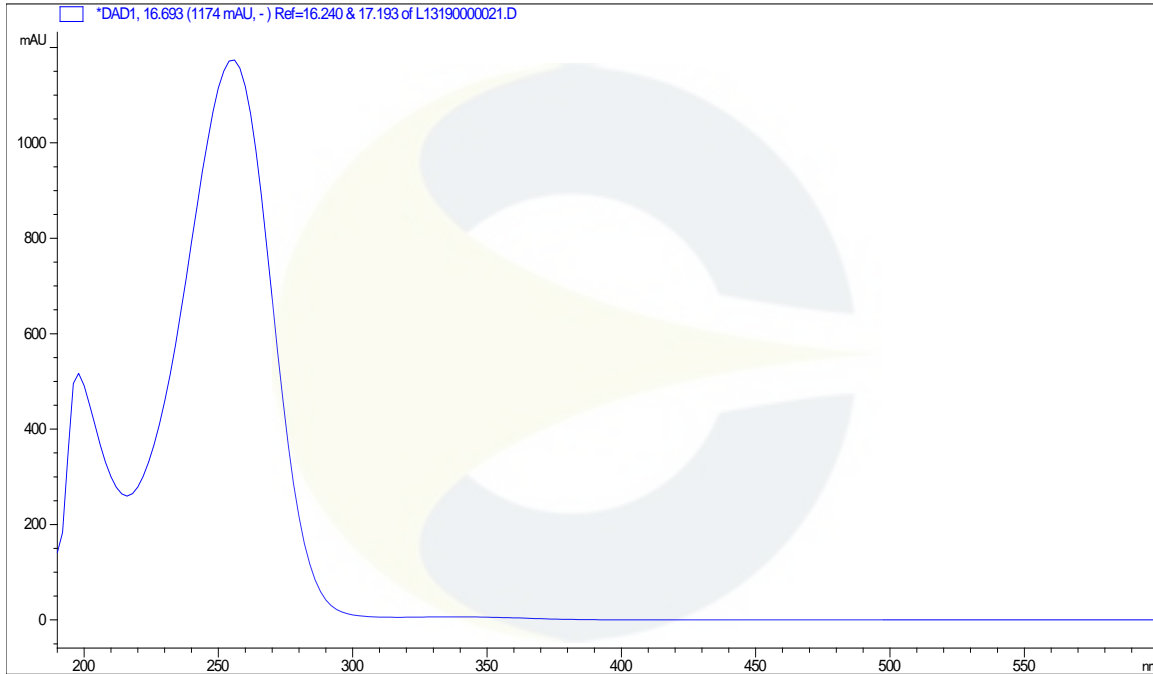
INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AGILENT 6510 QTOF
COLUMN	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
MOBILE PHASE	A - 0.1% Trifluoroacetic acid in Ultrapure water, B - Acetonitrile; Isocratic 5% B for 5 minutes, then increasing to 95% B over 20 minutes. Hold at 95% B for 15 minutes.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	2.0 µL
INJECTION CONC.	1.1 mg/mL in Methanol
DETECTION	250 ± 40 nm

HPLC CHROMATOGRAM OF GANODERIC ACID A (CDXA-15-007823)

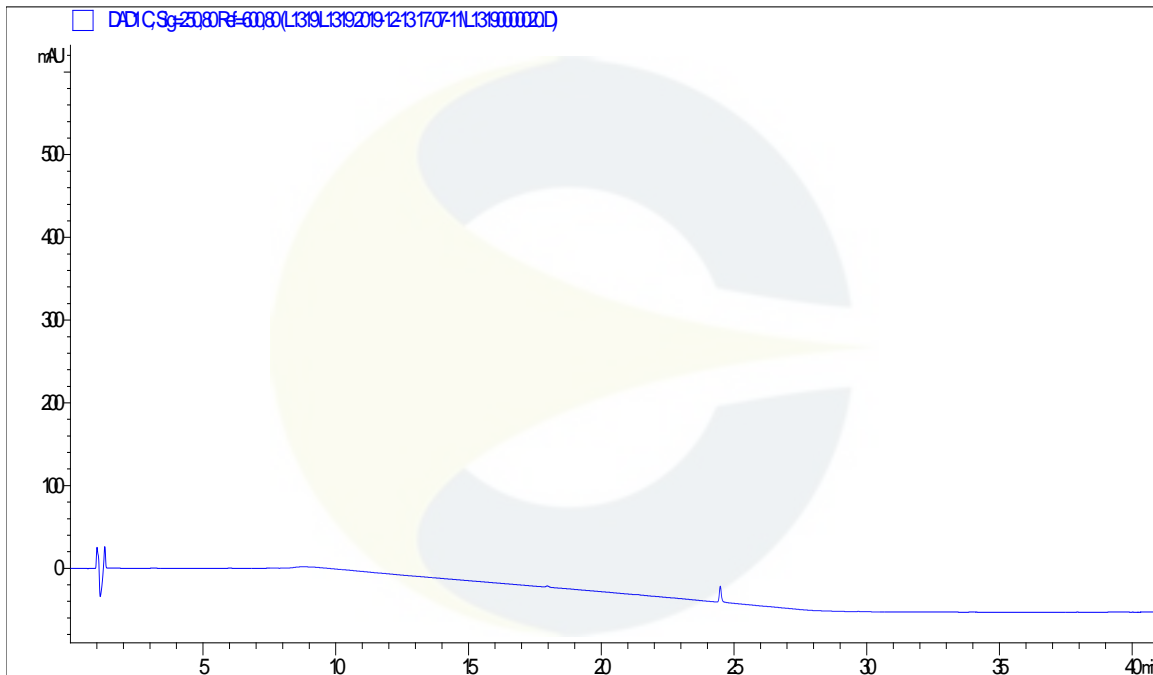


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UV SPECTRUM AT RT = 16.7 MINUTES

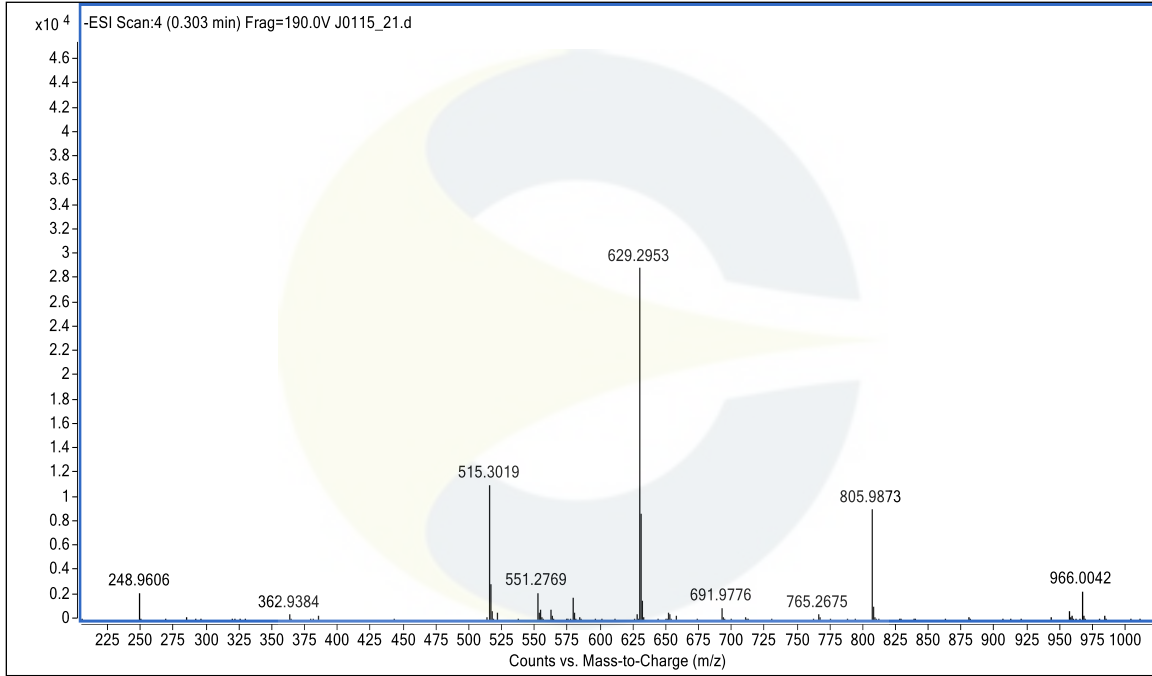


HPLC CHROMATOGRAM OF DILUENT BLANK

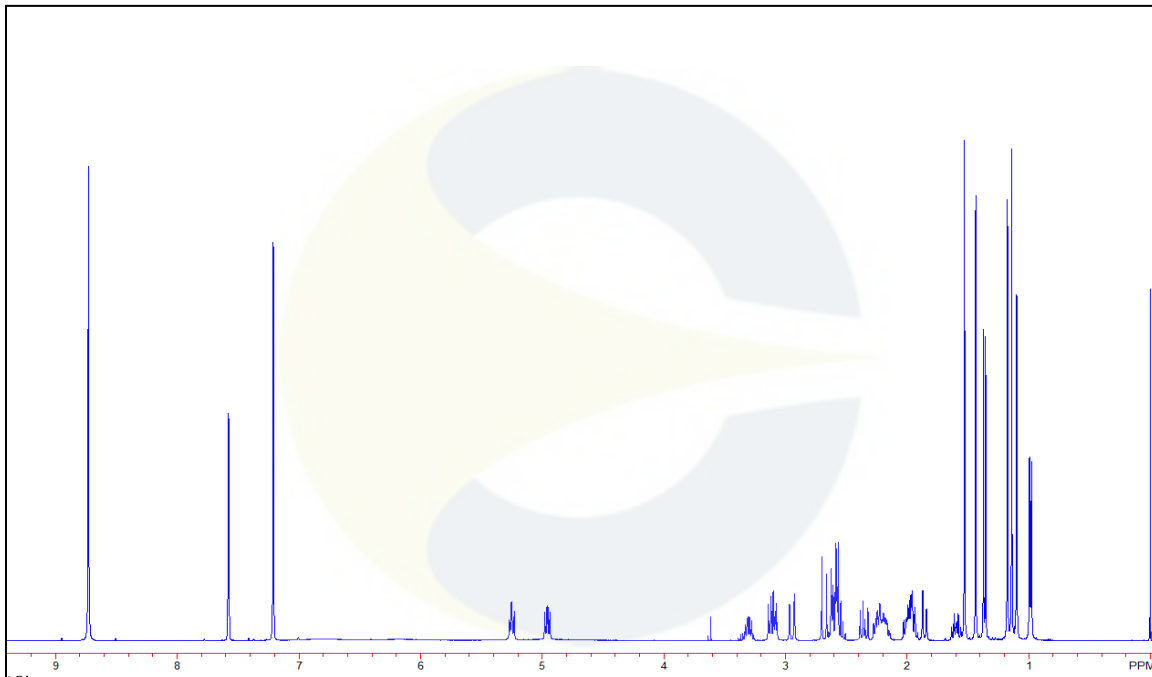


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MASS SPECTRUM OF GANODERIC ACID A (CDXA-15-007823)

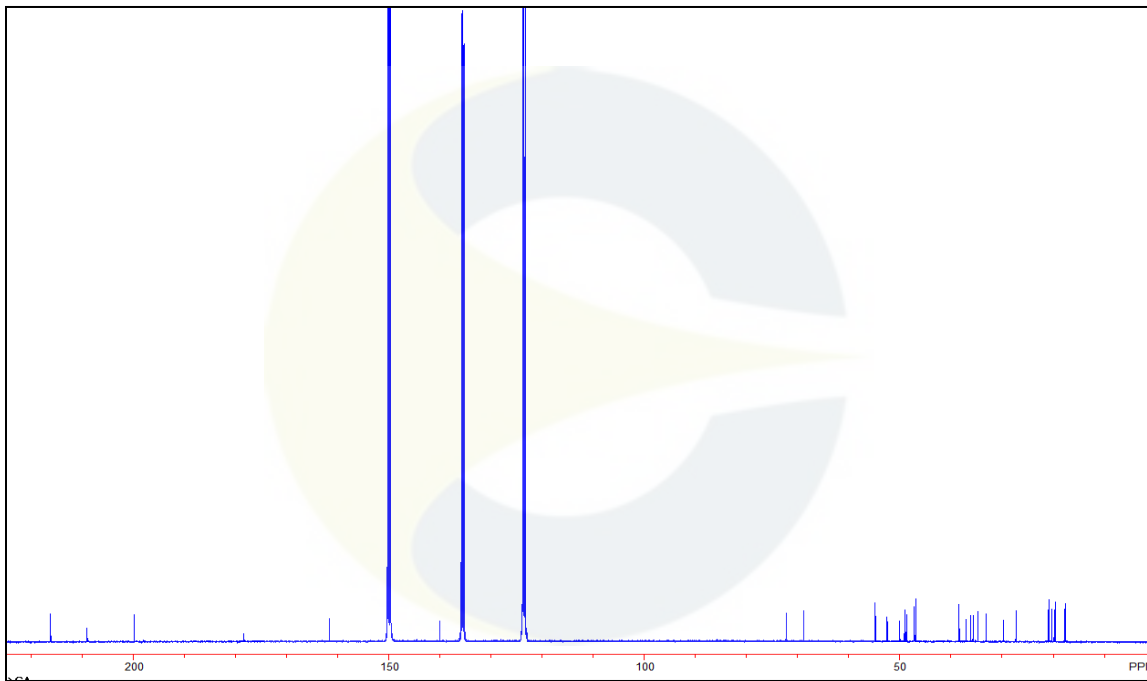


¹H-NMR SPECTRUM OF GANODERIC ACID A (CDXA-15-007823) in PYRIDINE-d₅



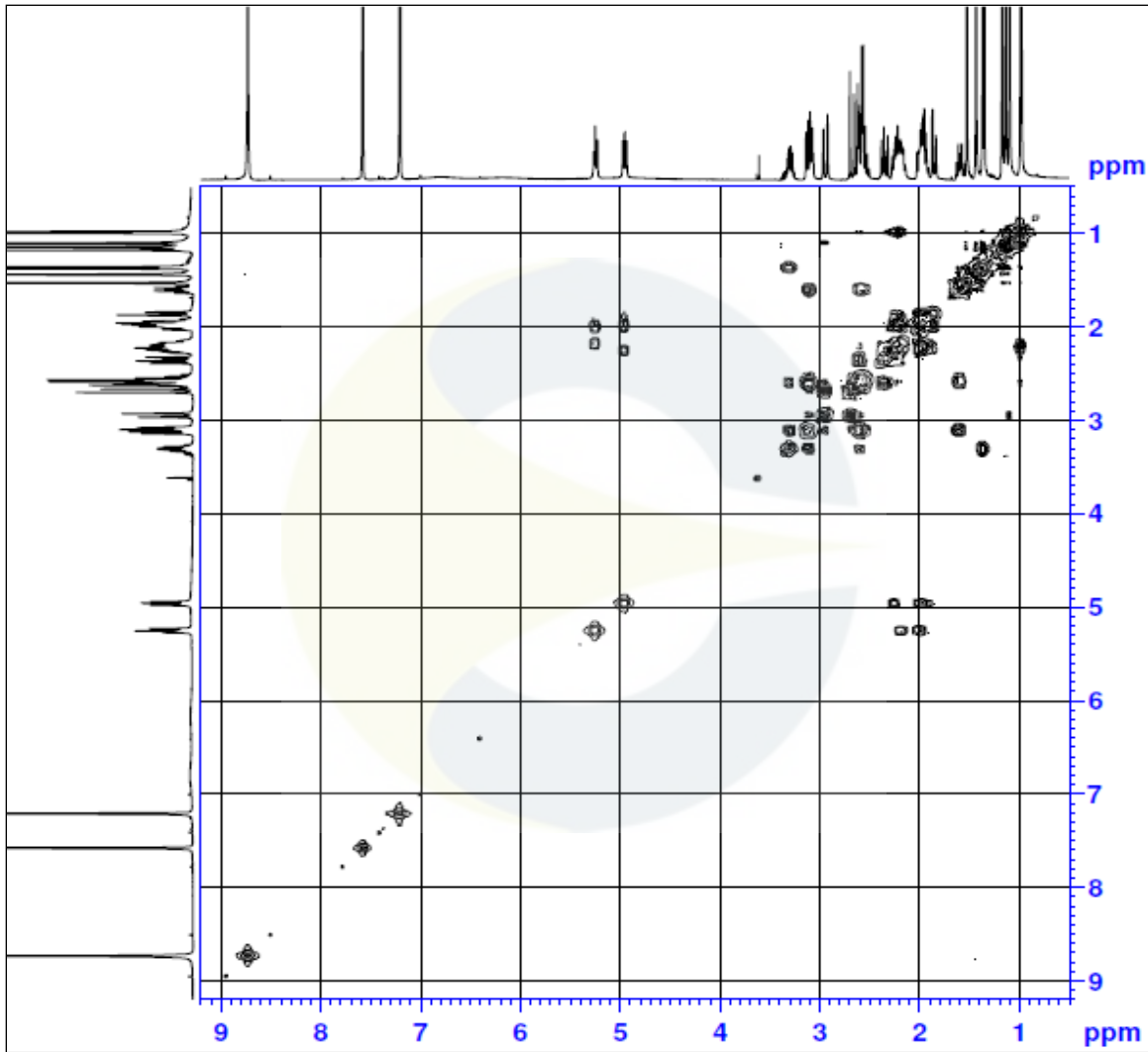
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¹³C-NMR SPECTRUM OF GANODERIC ACID A (CDXA-15-007823) IN PYRIDINE-d₅



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COSY-NMR SPECTRUM OF GANODERIC ACID A (CDXA-15-007823) IN PYRIDINE-d₅



REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	10/20/2015	New report
01	01/07/2020	Updated analytical results, expiration date, analytical conditions, chromatograms, and removed melting point

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