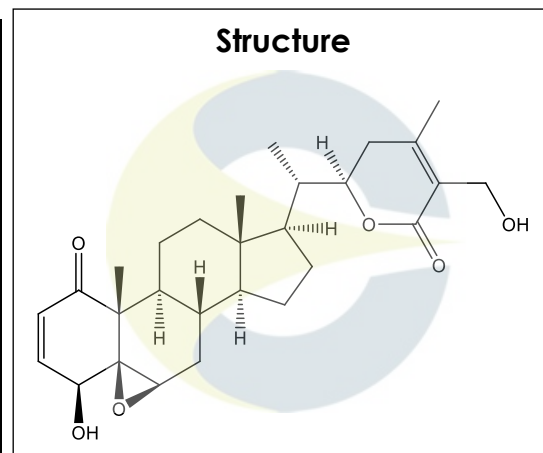


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PRODUCT NAME	Withaferin A
PART NUMBER	00023250
STANDARD TYPE	Primary (P)
LOT NUMBER	00023250-004
REPORT NUMBER	CDXA-RSS-9041-00
SAMPLE NUMBER	CDXP-20-00401
DATE OF SAMPLE	06/09/2020
DATE OF REPORT	07/17/2020



CHEMICAL NAMES	(4β,5β,6β,22R)-5,6-Epoxy-4,22,27-trihydroxy-1-oxo-ergosta-2,24-dien-26-oic acid δ-lactone; Withaferine
CHEMICAL FORMULA	C ₂₈ H ₃₈ O ₆
MOLECULAR WEIGHT (MW)	470.60
CHEMICAL FAMILY	Terpenes
CAS NUMBER	[5119-48-2]
EC#(EINECS)	NA
RTECS	KE7288500

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	94.8%
HPLC	0.700.10.2.METH22	NA	96.0%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	MeOH – 0.2%
Water	0.700.12.37	NA	1.1%
Appearance	NA	NA	White powder

*Testing performed at an ISO 17025 accredited subcontracted laboratory.

ADJUSTED PURITY: 94.8% IS BASED ON (100 - 0.2 SOLVENTS - 1.1 WATER) X 96.0% HPLC

STORAGE CONDITIONS

STORAGE	+4 °C in a dry place.
EXPIRATION DATE	06/2025 under the above conditions.

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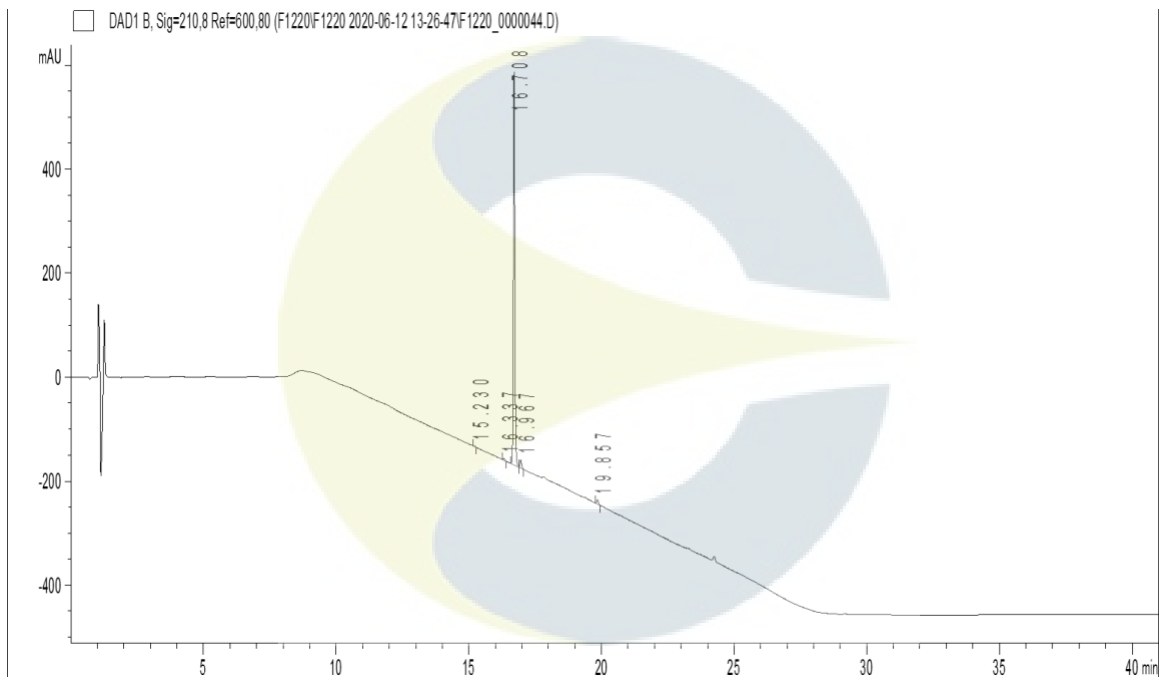
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ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF
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, then decreasing to 5% B over 1 minute.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.8 µL
INJECTION CONC.	0.84 mg/mL in Methanol
DETECTION	210 ± 4 nm

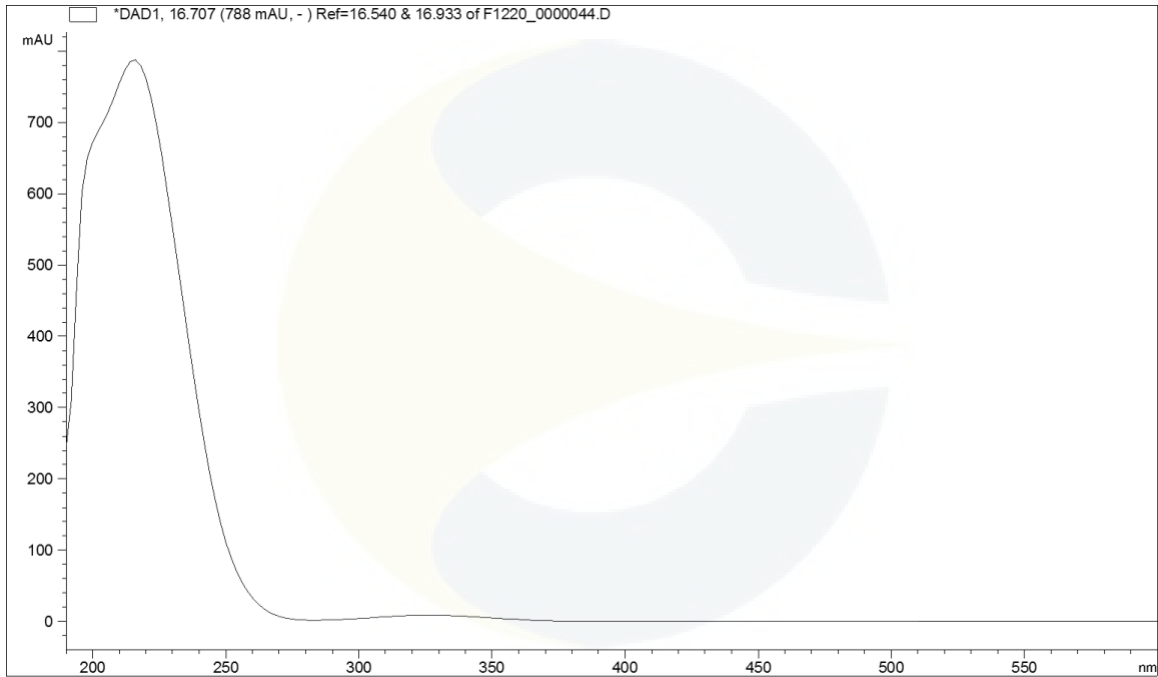
HPLC CHROMATOGRAM OF WITHAFERIN A (CDXP-20-00401)



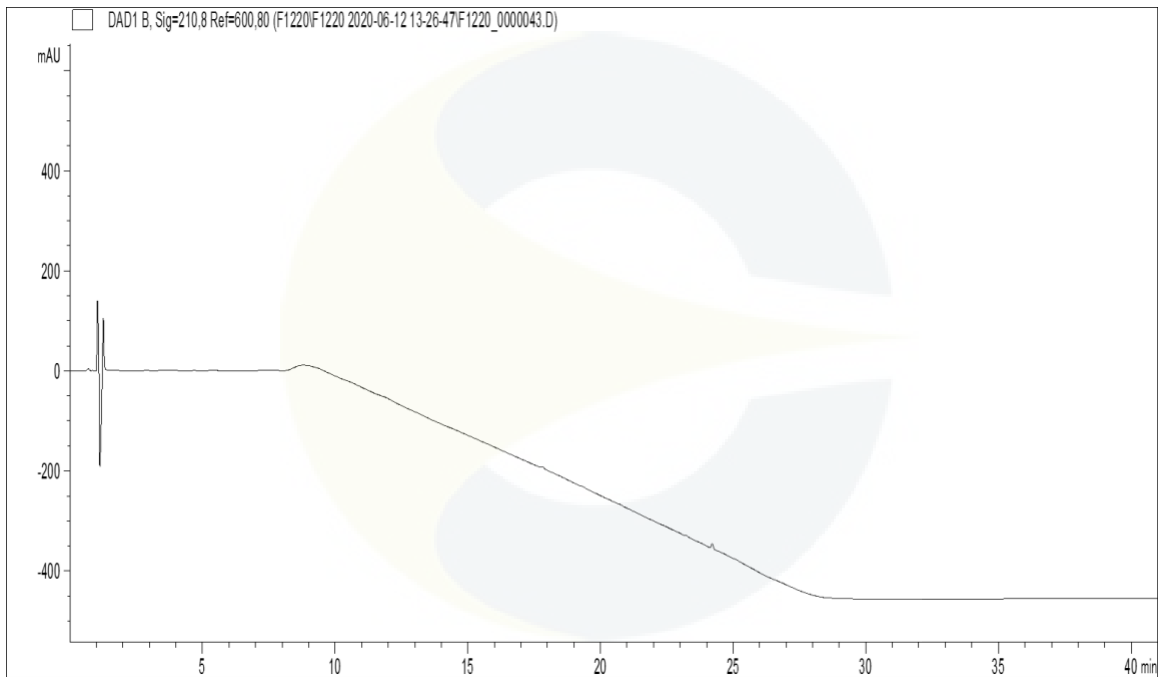
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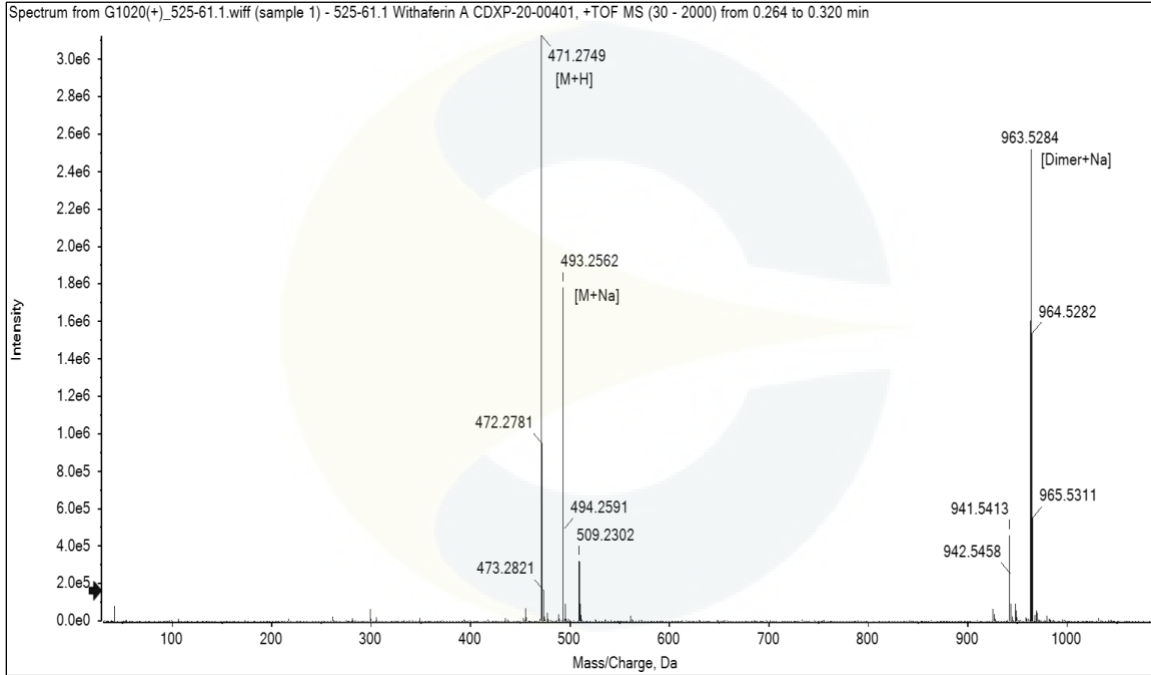
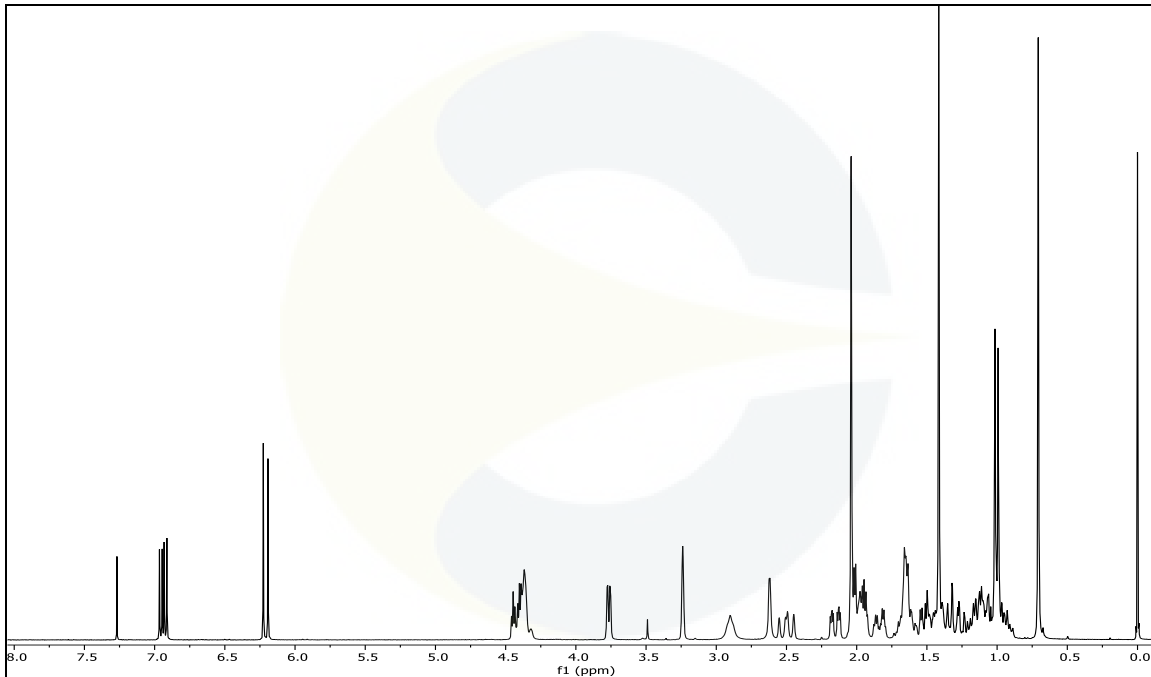
UV SPECTRUM AT RT = 16.7 MINUTES



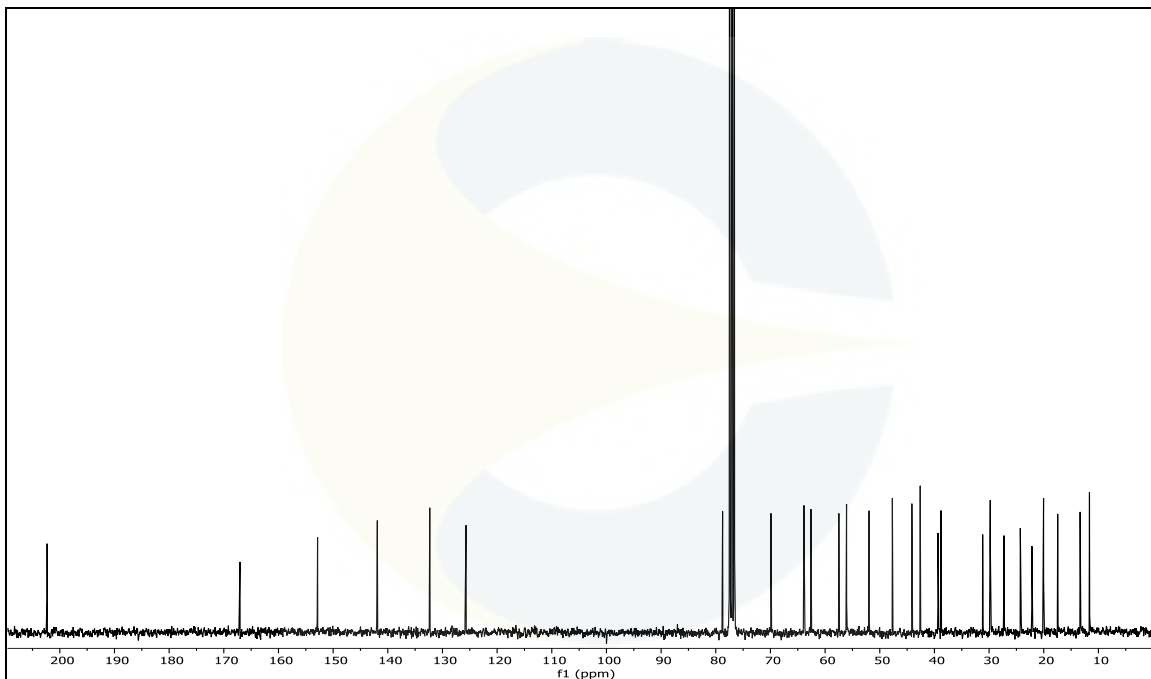
HPLC CHROMATOGRAM OF DILUENT BLANK



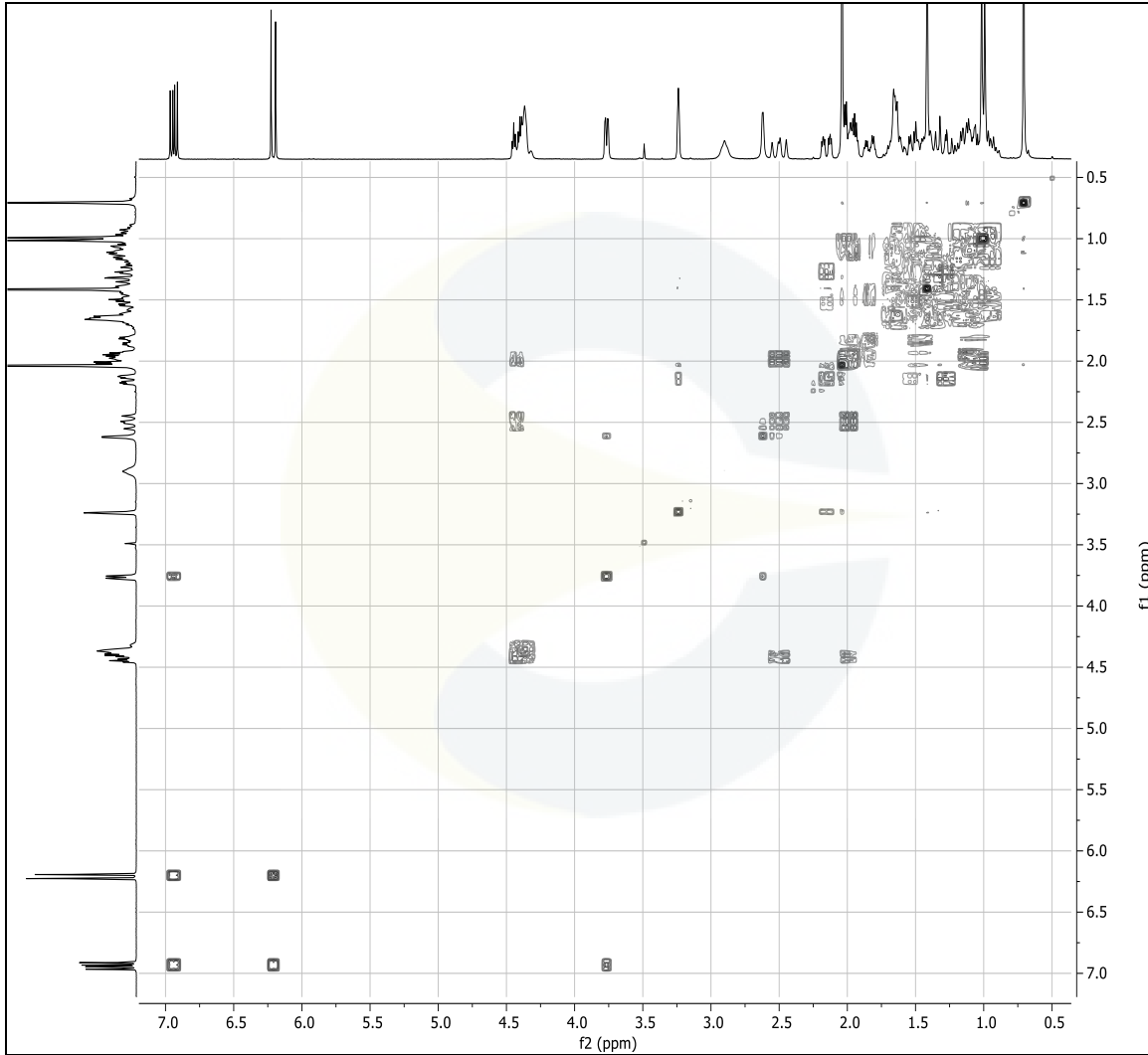
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MASS SPECTRUM OF WITHAFERIN A (CDXP-20-00401)

¹H-NMR SPECTRUM OF WITHAFERIN A (CDXP-20-00401) IN CDCl₃ + TMS


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¹³C-NMR SPECTRUM WITHAFERIN A (CDXP-20-00401) IN CDCl₃ + TMS

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COSY-NMR SPECTRUM OF WITHAFERIN A (CDXP-20-00401) IN CDCl₃ + TMS

REVISION HISTORY

Revision History	Date of Revision	Document/Changes
00	07/17/2020	New report

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