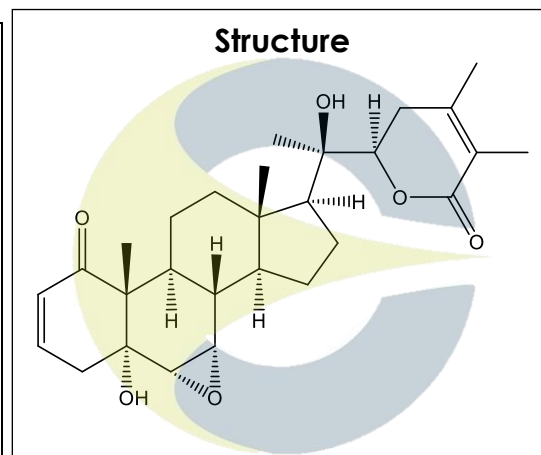


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PRODUCT NAME	Withanolide A
PART NUMBER	00023251
STANDARD TYPE	Primary (P)
LOT NUMBER	00023251-A002
REPORT NUMBER	CDXA-RSS-9720-00
SAMPLE NUMBER	CDXP-22-00210
DATE OF SAMPLE	03/11/2022
DATE OF REPORT	03/30/2022



CHEMICAL NAMES	(5 α ,6 α ,7 α ,22R)-6,7-Epoxy-5,20,22-trihydroxy-1-oxo-ergosta-2,24-dien-26-oic acid δ -lactone; Withanol
CHEMICAL FORMULA	C ₂₈ H ₃₈ O ₆
MOLECULAR WEIGHT (MW)	470.60
CHEMICAL FAMILY	Triterpenes
CAS NUMBER	[32911-62-9]
EC#(EINECS)	NA
RTECS	NA

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	97.4%
HPLC	0.700.10.2.METH22	≥ 90%	98.7%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	Methylene chloride: 10600 ppm Acetone: 2390 ppm
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

*Testing performed at an ISO 17025 accredited subcontracted laboratory.

ADJUSTED PURITY: 97.4% IS BASED ON (100 - 1.3 SOLVENTS - 0.0 WATER) X 98.7% HPLC

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STORAGE CONDITIONS

STORAGE -20 °C in a dry place.

EXPIRATION DATE 03/2027 under the above conditions.

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

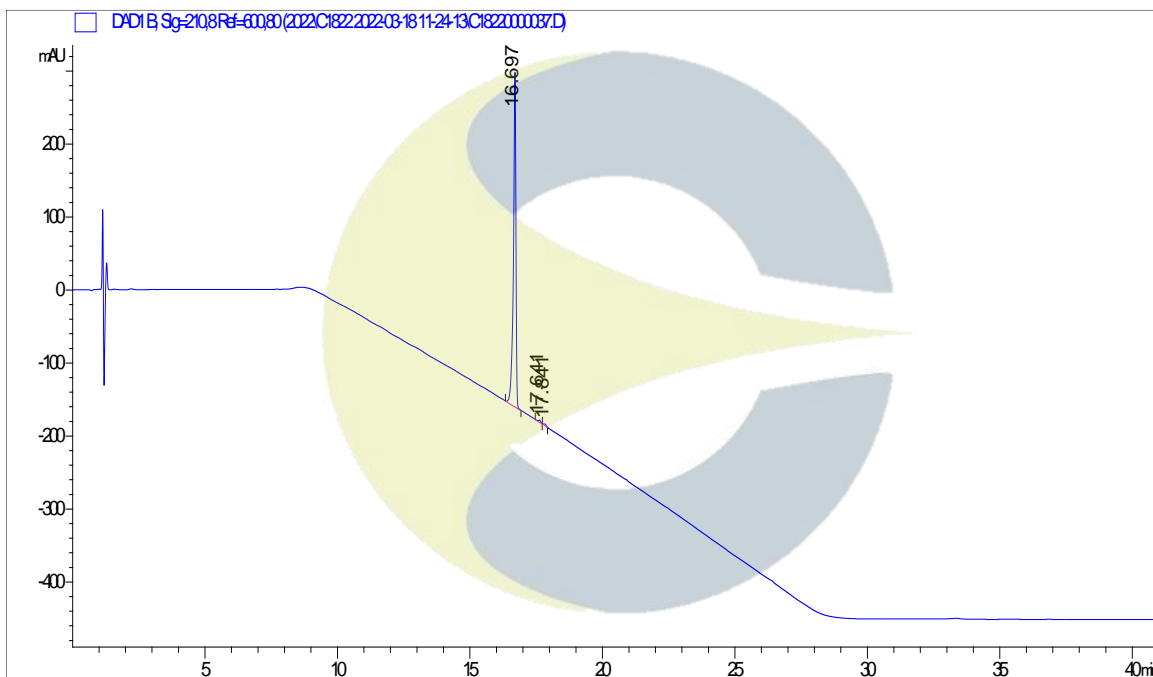
FLOW RATE 0.4 mL/minute

INJECTION VOL. 1.0 µL

INJECTION CONC. 1.0 mg/mL in Methanol

DETECTION 210 ± 4 nm

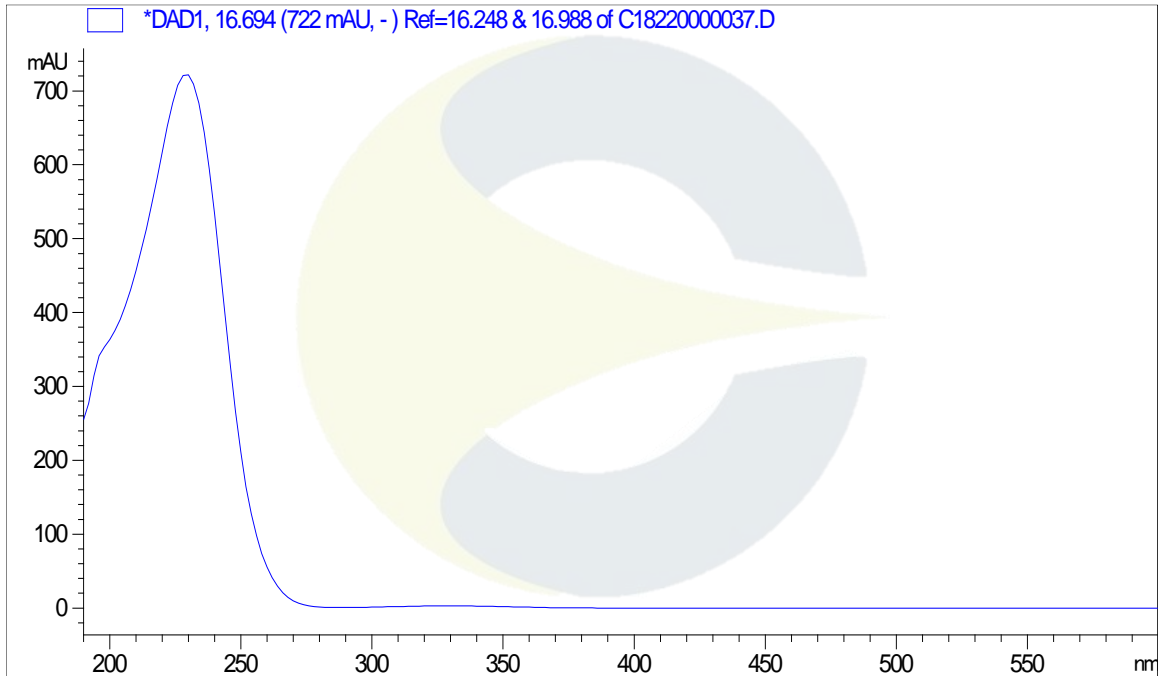
HPLC CHROMATOGRAM OF WITHANOLIDE A (CDXP-22-00210)



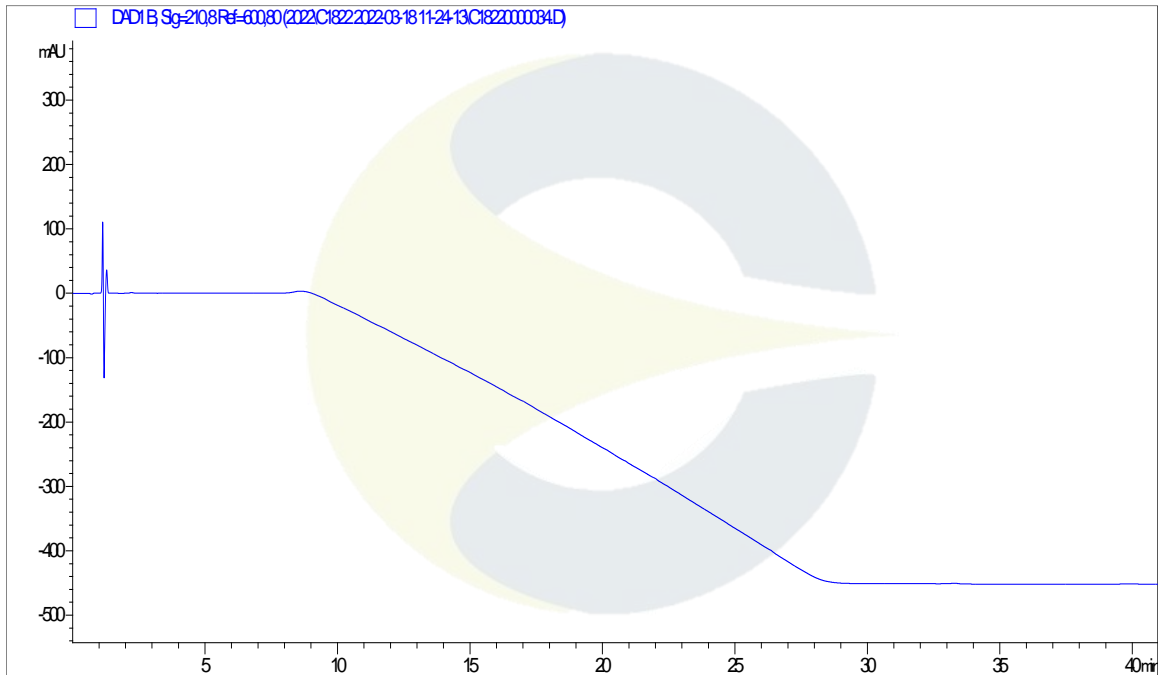
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UV SPECTRUM AT RT = 17.0 MINUTES



HPLC CHROMATOGRAM OF DILUENT BLANK

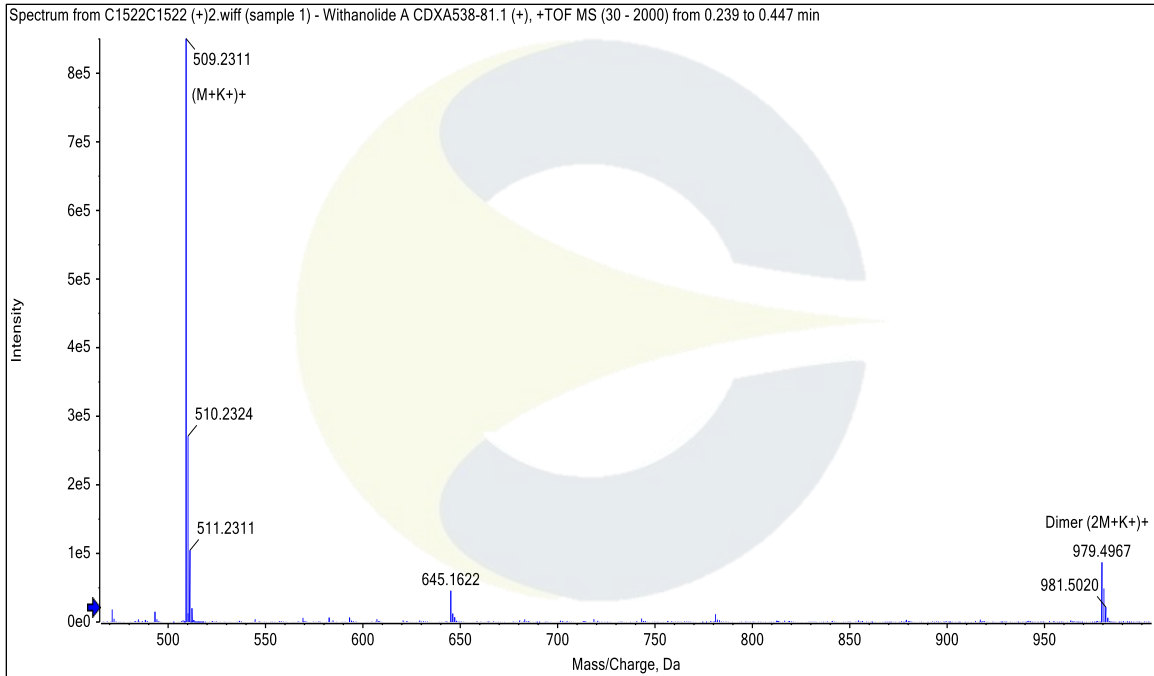


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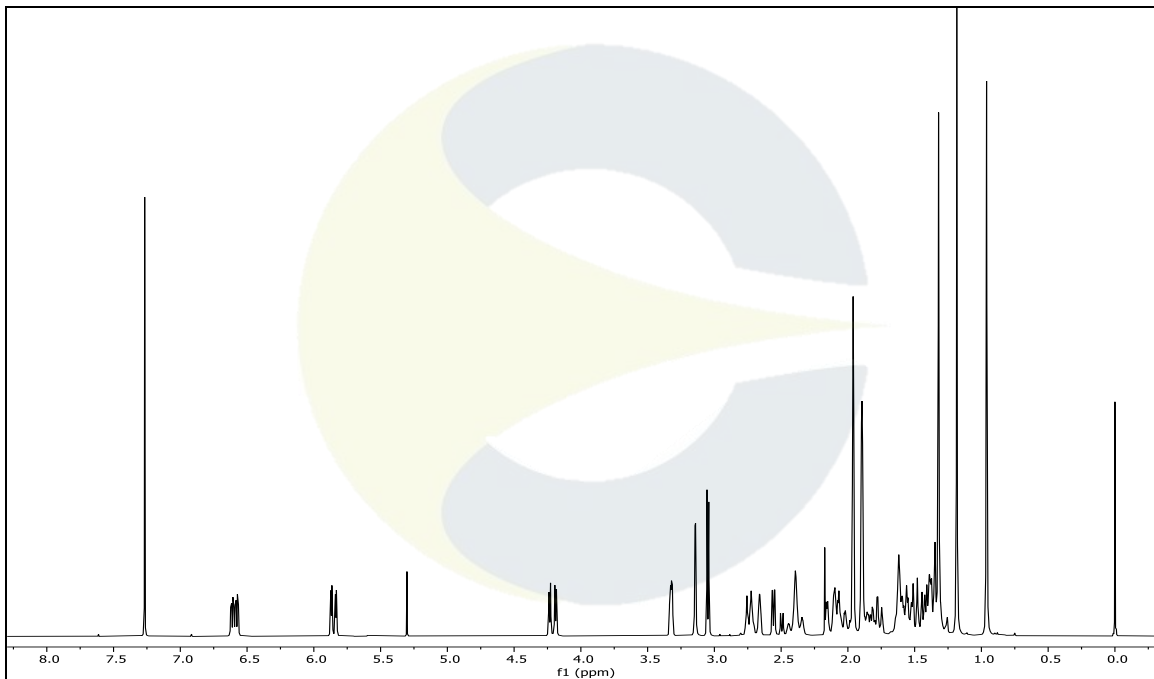
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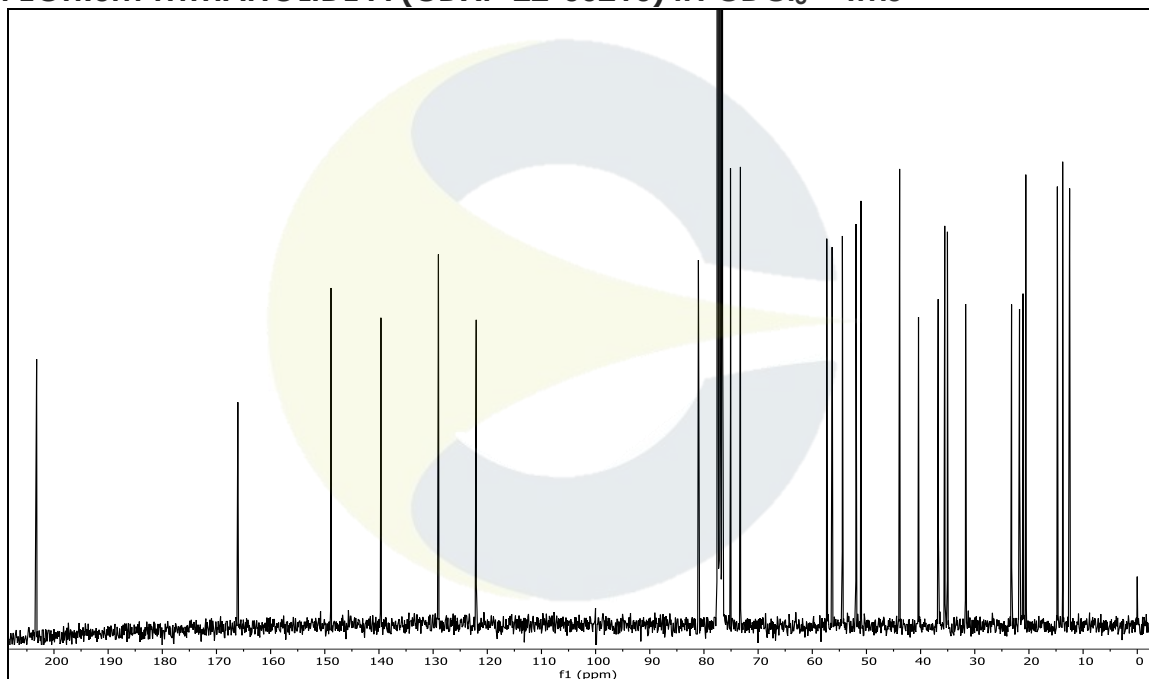
MASS SPECTRUM OF WITHANOLIDE A (CDXP-22-00210)



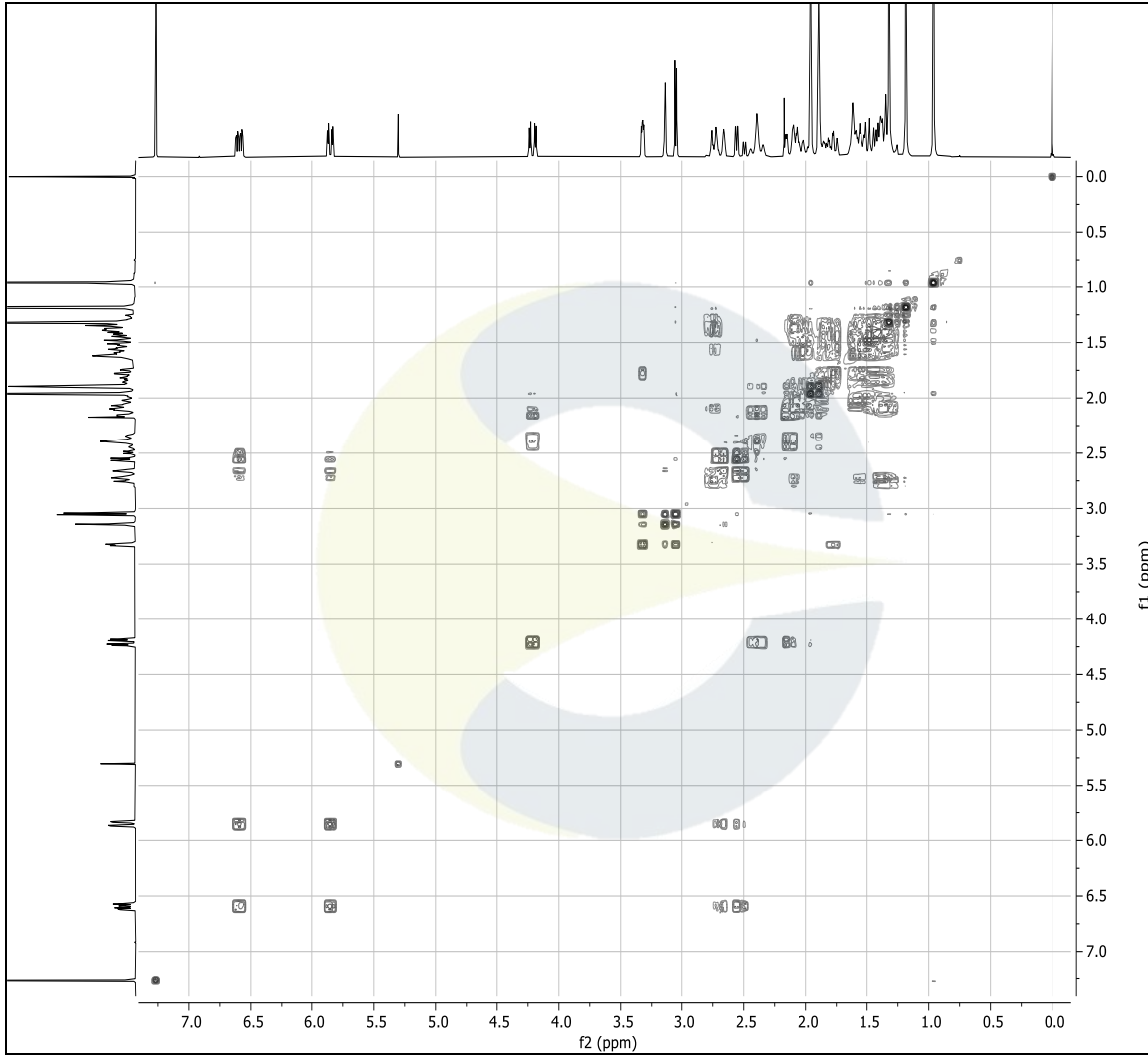
¹H-NMR SPECTRUM OF WITHANOLIDE A (CDXP-22-00210) IN CDCl₃ + TMS



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¹³C-NMR SPECTRUM WITHANOLIDE A (CDXP-22-00210) IN CDCl₃ + TMS

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COSY-NMR SPECTRUM OF WITHANOLIDE A (CDXP-22-00210) IN CDCl₃ + TMS

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	03/30/2022	New report

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