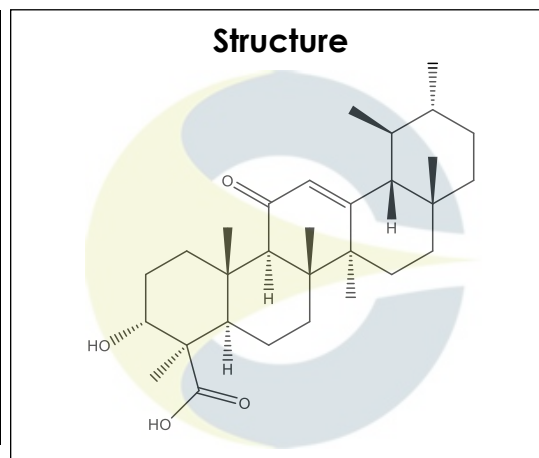


**Certificate of Analysis**
*For Laboratory Use Only*

<b>PRODUCT NAME</b>	11-Keto-beta-Boswellic Acid
<b>PART NUMBER</b>	00002575
<b>STANDARD TYPE</b>	Primary (P)
<b>LOT NUMBER</b>	00002575-901B
<b>REPORT NUMBER</b>	CDXA-RSS-10010-00
<b>SAMPLE NUMBER</b>	CDXP-22-01094
<b>DATE OF SAMPLE</b>	11/22/2022
<b>DATE OF REPORT</b>	12/19/2022



<b>CHEMICAL NAMES</b>	(3 $\alpha$ ,4 $\beta$ )-3-Hydroxy-11-oxo-urs-12-en-23-oic acid
<b>CHEMICAL FORMULA</b>	C <sub>30</sub> H <sub>46</sub> O <sub>4</sub>
<b>MOLECULAR WEIGHT (MW)</b>	470.69
<b>CHEMICAL FAMILY</b>	Triterpenes
<b>CAS NUMBER</b>	[17019-92-0]
<b>EC#(EINECS)</b>	605-571-5
<b>RTECS</b>	ED8962500

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	96.7%
HPLC	0.700.10.2.METH22	≥ 90%	98.6%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	Methanol: 1920 ppm Ethyl acetate: 642 ppm
Water	0.700.12.37	NA	1.6%
Appearance	NA	NA	White powder

\*Testing performed at an ISO 17025 accredited subcontracted laboratory.  
 ADJUSTED PURITY: 96.7% IS BASED ON (100 - 0.3 SOLVENTS - 1.6 WATER) X 98.6% HPLC

**STORAGE CONDITIONS**

<b>STORAGE</b>	-20 °C in a dry place.
<b>EXPIRATION DATE</b>	11/2027 under the above conditions.

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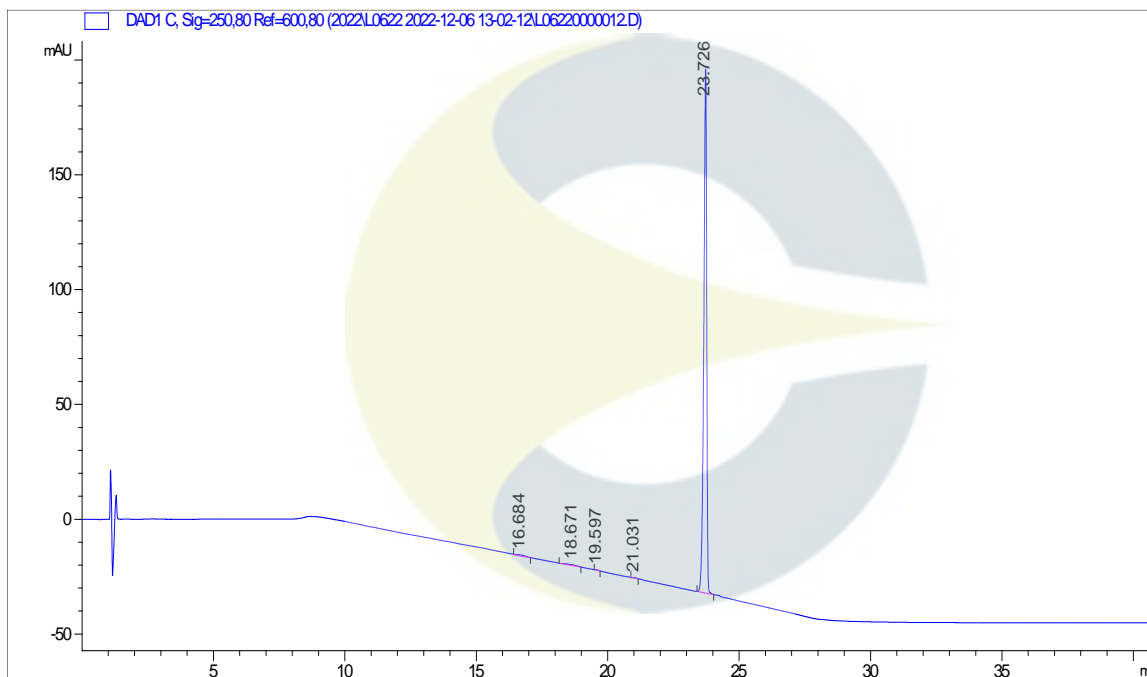
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**ANALYTICAL CONDITIONS**

<b>INSTRUMENT</b>	AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF
<b>COLUMN</b>	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
<b>MOBILE PHASE</b>	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.
<b>COLUMN TEMP.</b>	60 °C
<b>FLOW RATE</b>	0.4 mL/minute
<b>INJECTION VOL.</b>	1.0 µL
<b>INJECTION CONC.</b>	1.0 mg/mL in Methanol
<b>DETECTION</b>	250 ± 40 nm

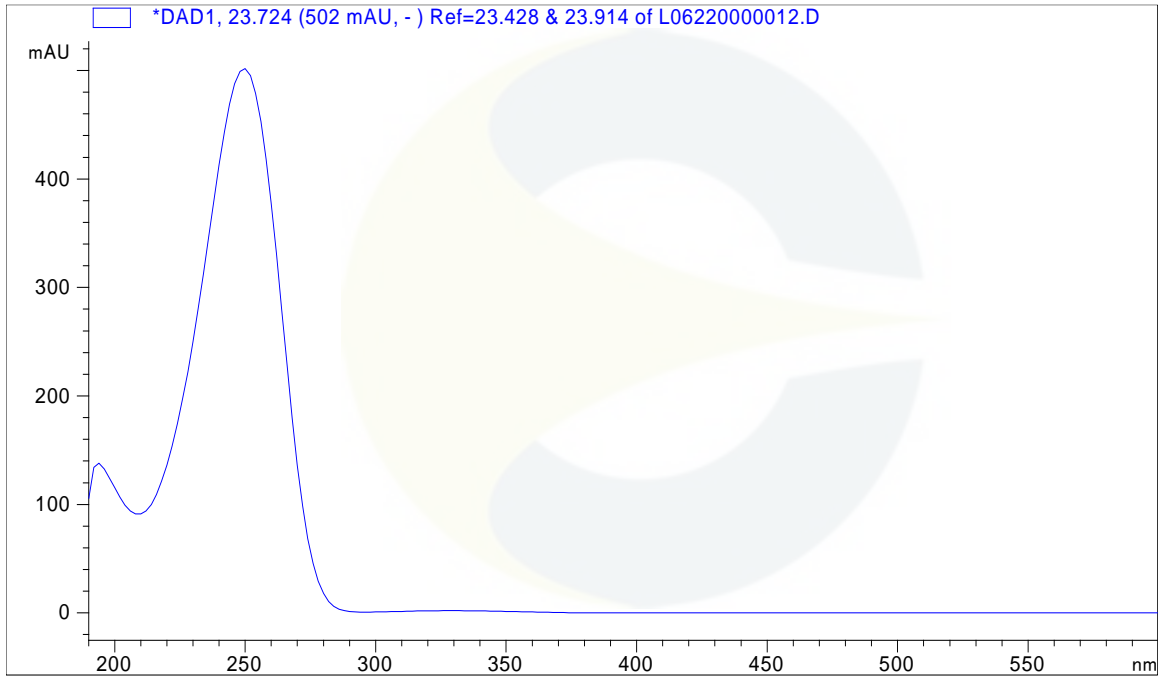
**HPLC CHROMATOGRAM OF 11-KETO-BETA-BOSWELLIC ACID (CDXP-22-01094)**



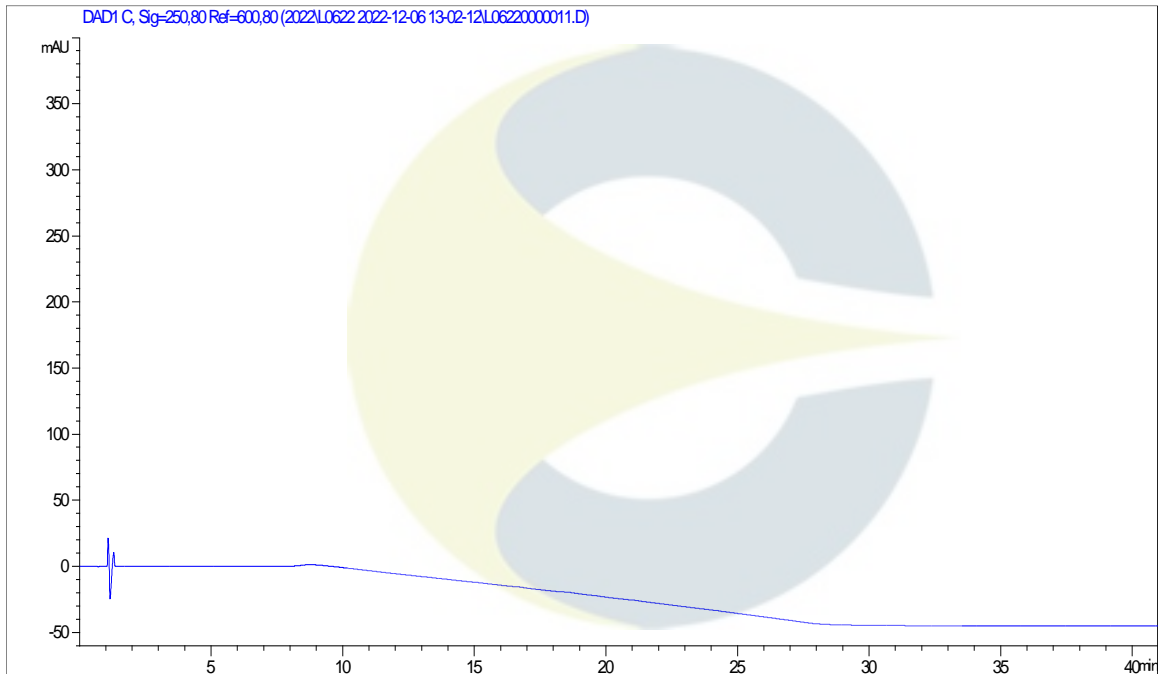
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**UV SPECTRUM AT RT = 23.7 MINUTES**

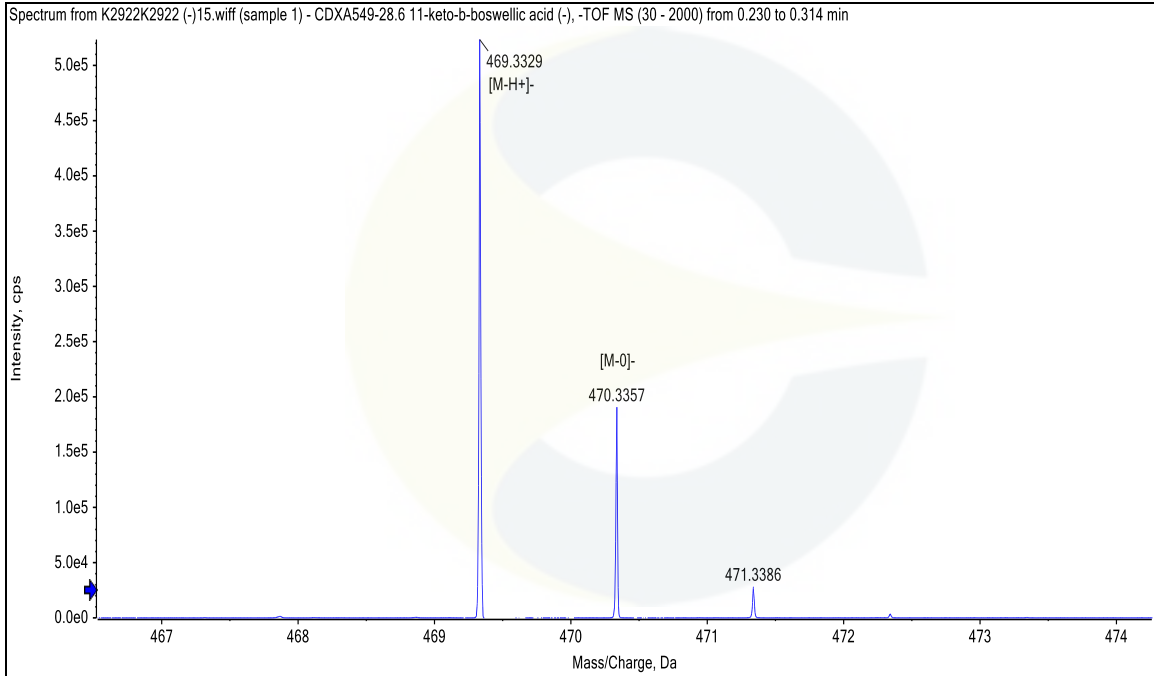


**HPLC CHROMATOGRAM OF DILUENT BLANK**

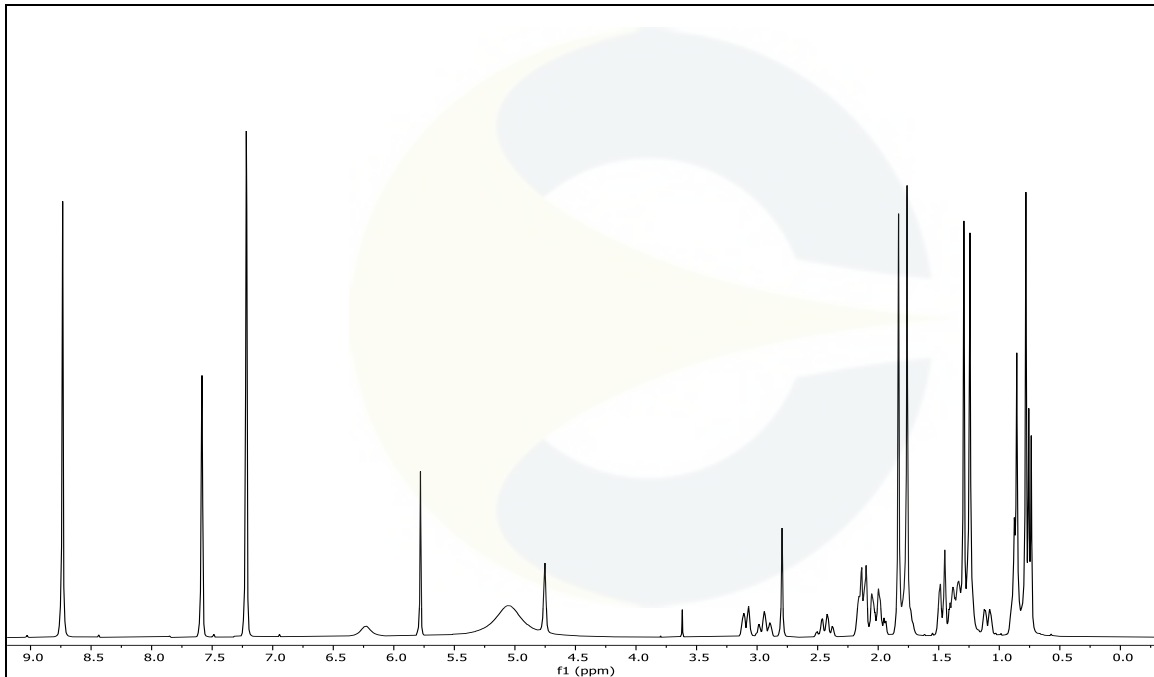


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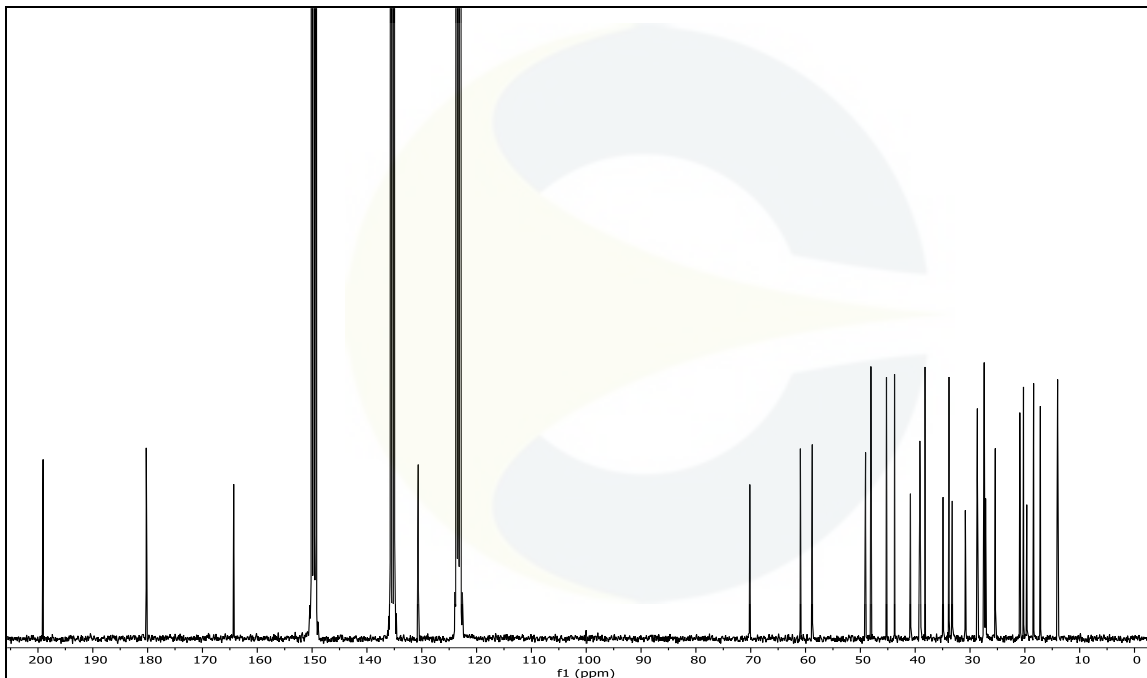
**MASS SPECTRUM OF 11-KETO-BETA-BOSWELLIC ACID (CDXP-22-01094)**



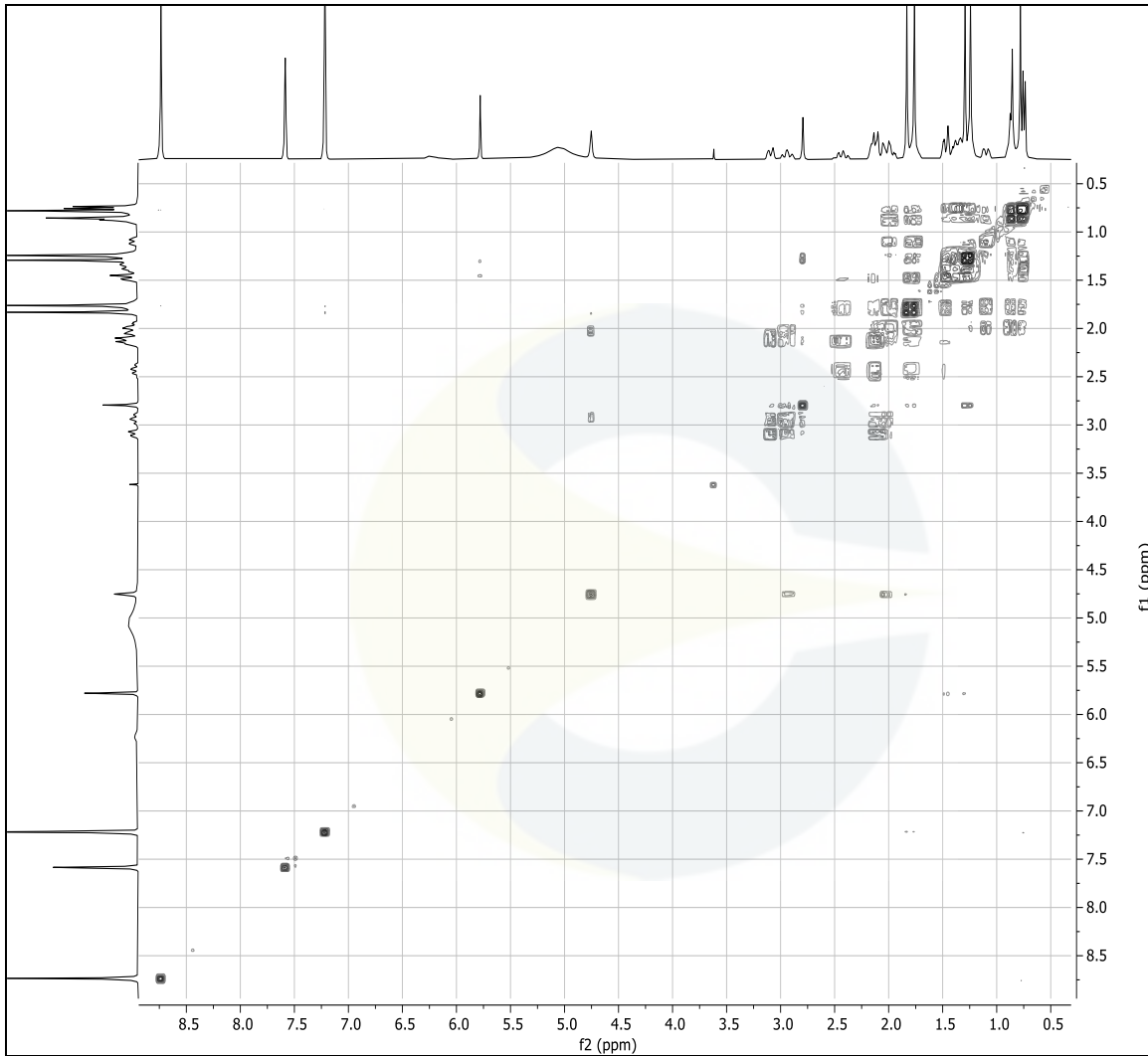
**<sup>1</sup>H-NMR SPECTRUM OF 11-KETO-BETA-BOSWELLIC ACID (CDXP-22-01094) IN PYRIDINE-d<sub>5</sub>**



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**$^{13}\text{C}$ -NMR SPECTRUM 11-KETO-BETA-BOSWELLIC ACID (CDXP-22-01094) IN PYRIDINE- $d_5$** 

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**COSY-NMR SPECTRUM OF 11-KETO-BETA-BOSWELLIC ACID (CDXP-22-01094) IN PYRIDINE-*d*<sub>5</sub>**

**REVISION HISTORY**

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	12/19/2022	New report

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