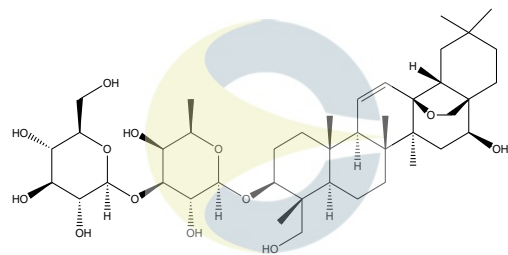


**Certificate of Analysis**

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<b>PRODUCT NAME</b>	Saikosaponin A	<div style="text-align: center;"> <b>Structure</b>  </div>
<b>PART NUMBER</b>	00019010	
<b>STANDARD TYPE</b>	Primary (P)	
<b>LOT NUMBER</b>	00019010-123	
<b>REPORT NUMBER</b>	CDXA-RSS-6211-01	
<b>SAMPLE NUMBER</b>	CDXA-14-5196	
<b>DATE OF SAMPLE</b>	08/19/2014	
<b>DATE OF RE-EVALUATION</b>	03/05/2019	
<b>DATE OF REPORT</b>	03/28/2019	

<b>CHEMICAL NAMES</b>	(3β,4α,16β)-13,28-Epoxy-16,23-dihydroxyolean-11-en-3-yl-6-deoxy-3-O-β-D-glucopyranosyl-β-D-galactopyranoside
<b>CHEMICAL FORMULA</b>	C <sub>42</sub> H <sub>68</sub> O <sub>13</sub>
<b>MOLECULAR WEIGHT (MW)</b>	780.99
<b>CHEMICAL FAMILY</b>	Saponins
<b>CAS NUMBER</b>	[20736-09-8]
<b>EC#(EINECS)</b>	NA
<b>RTECS</b>	LW5440153

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	93.6%
HPLC	99.1-04-1.0-00684	NA	98.9%
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-7.0-000115	NA	MeOH – 0.6%
Water	99.1-04-10.0-000094	NA	4.8%
Appearance	NA	NA	White powder

ADJUSTED PURITY: 93.6% IS BASED ON (100 - 0.6 SOLVENTS - 4.8 WATER) X 98.9% HPLC

**STORAGE CONDITIONS**

<b>STORAGE</b>	+4 °C in a dry place.
<b>EXPIRATION DATE</b>	03/2024 under the above conditions.

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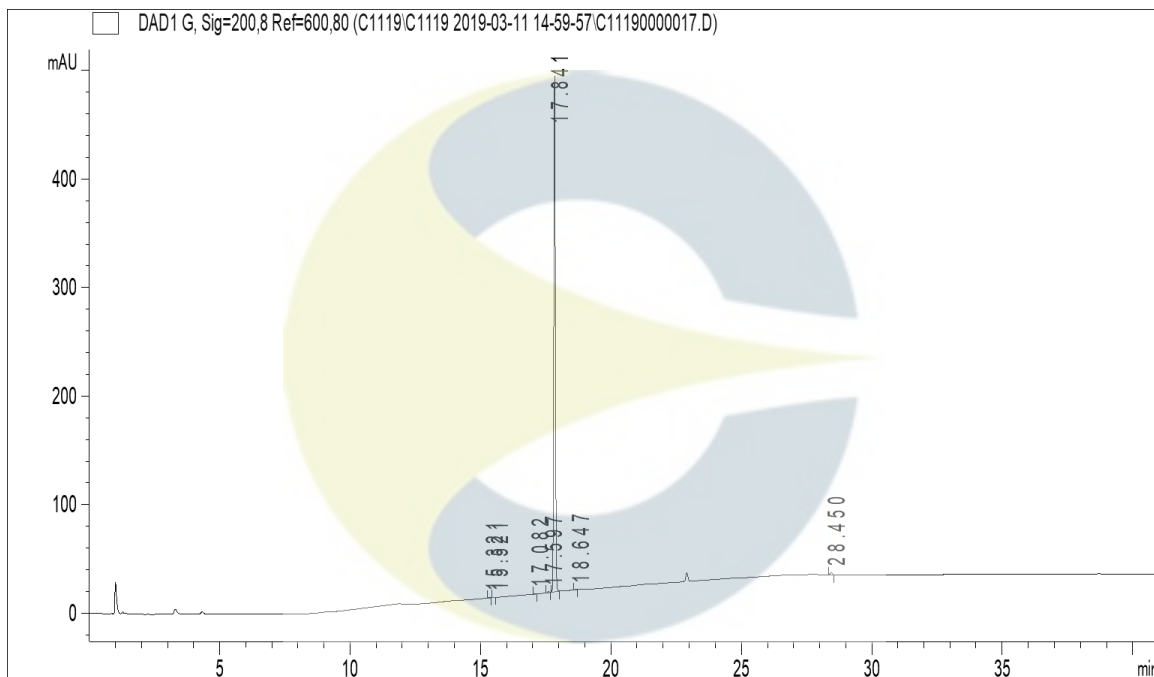
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## ANALYTICAL CONDITIONS

<b>INSTRUMENT</b>	AGILENT 1260 HPLC UV-VIS (DAD); AGILENT 1100 ION TRAP
<b>COLUMN</b>	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
<b>MOBILE PHASE</b>	A - 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.
<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>	1.4 mg/mL in Methanol
<b>DETECTION</b>	200 ± 4 nm

## HPLC CHROMATOGRAM OF SAIKOSAPONIN A (CDXA-14-5196)

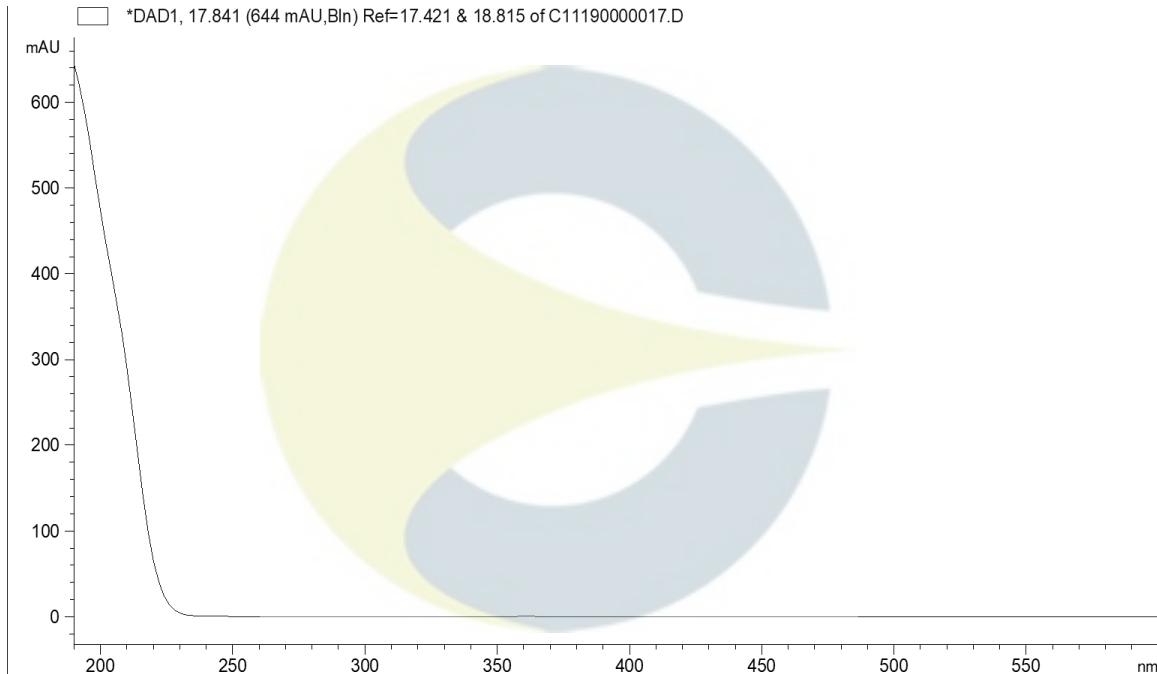


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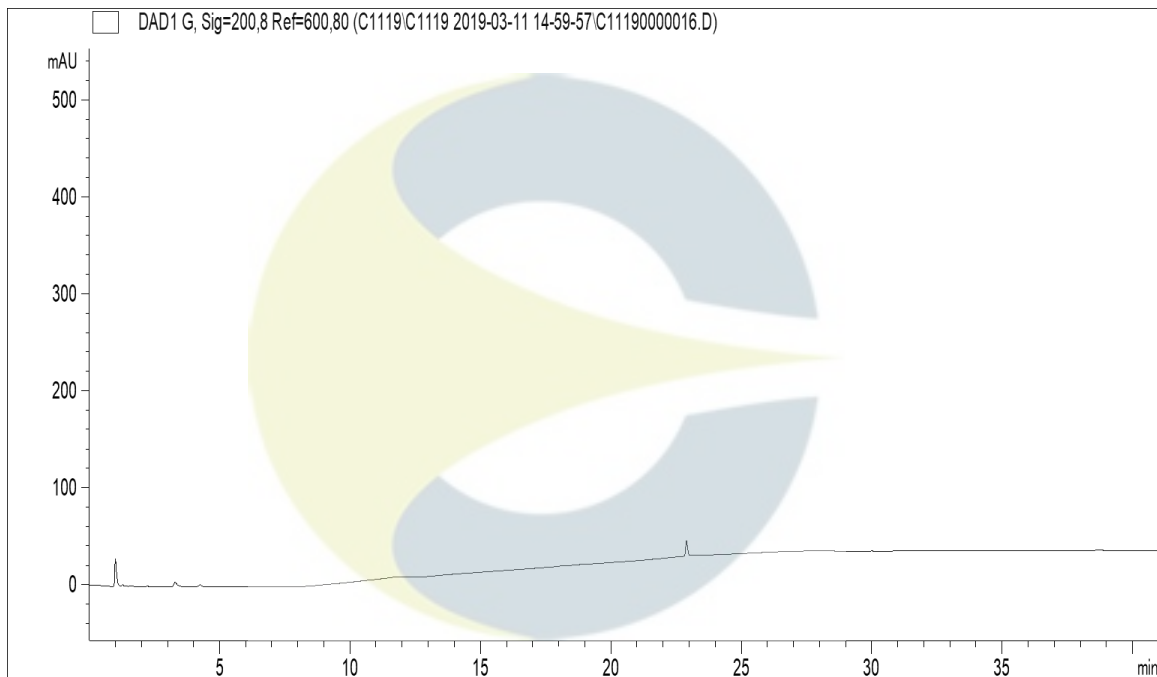
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## UV SPECTRUM AT RT = 17.8 MINUTES

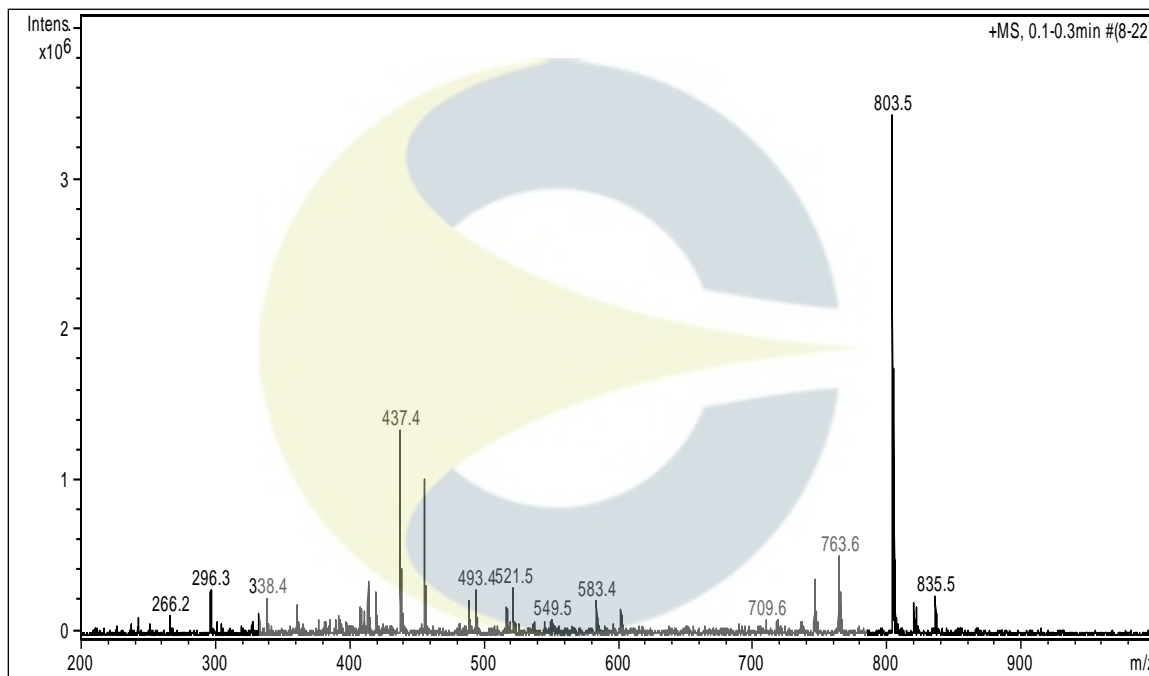


## HPLC CHROMATOGRAM OF DILUENT BLANK

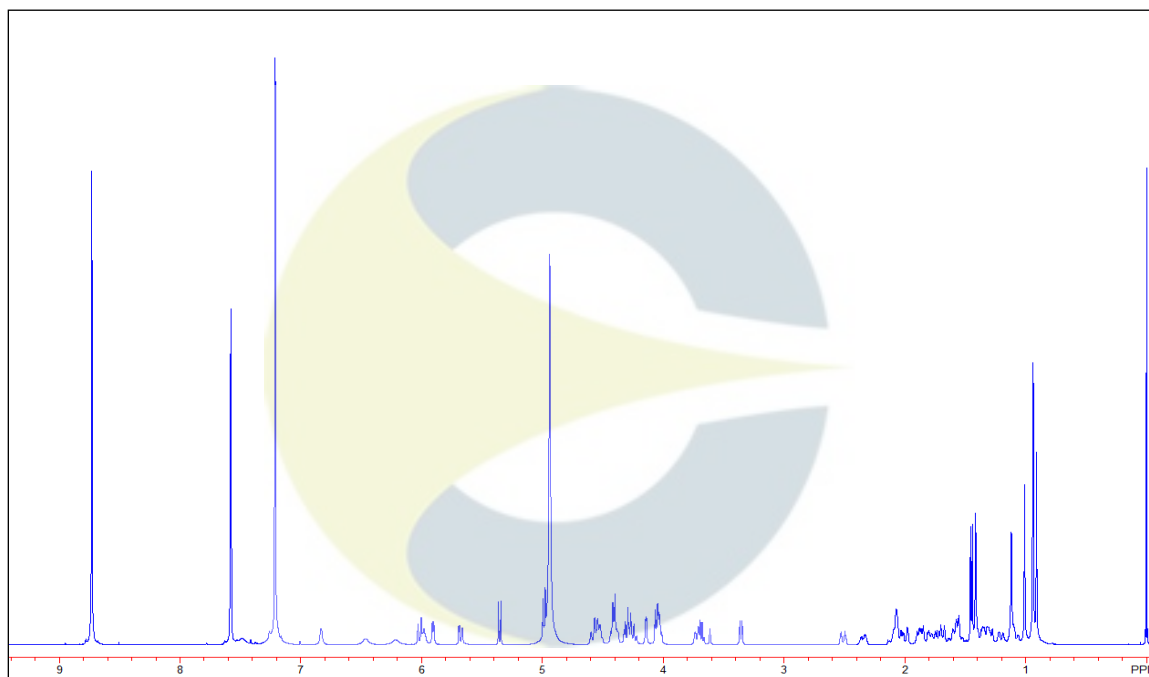


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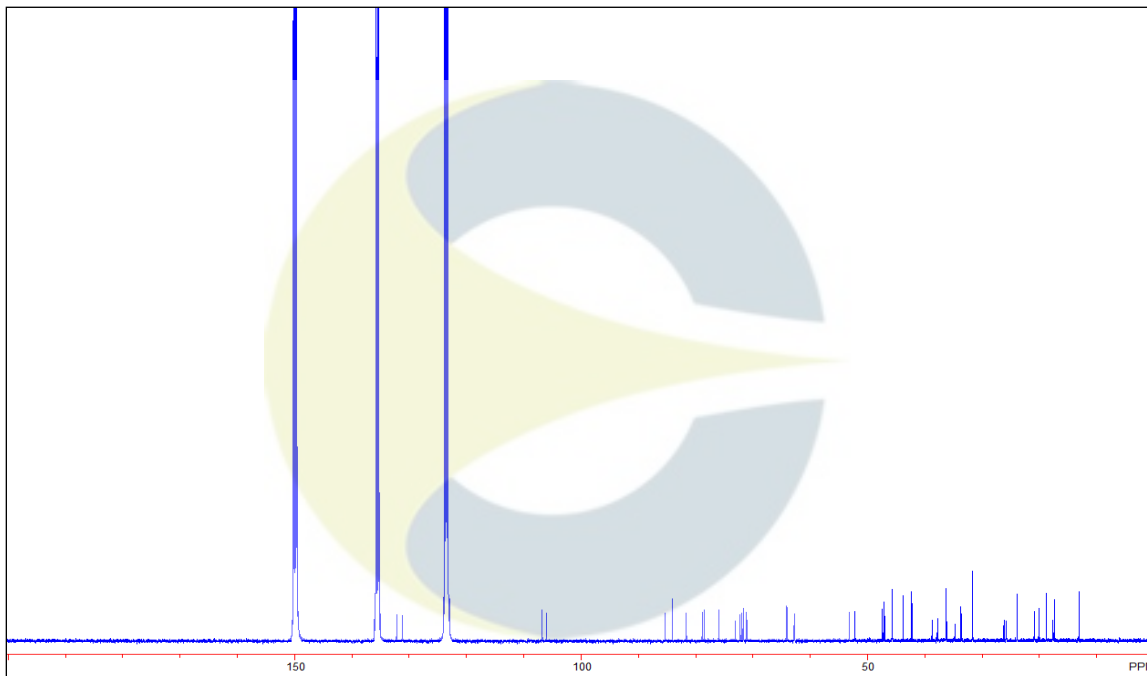
MASS SPECTRUM OF SAIKOSAPONIN A (CDXA-14-5196)



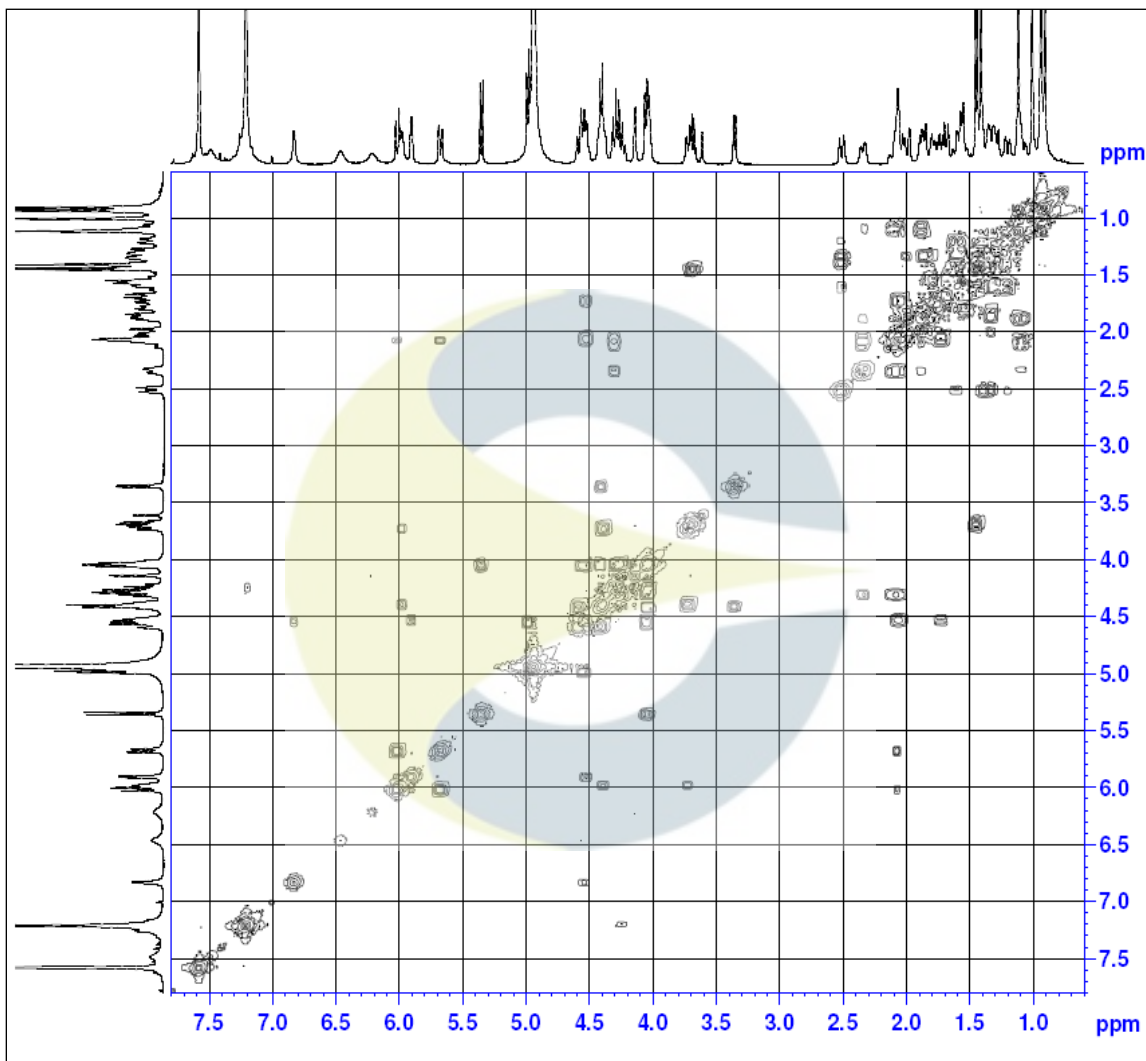
<sup>1</sup>H-NMR SPECTRUM OF SAIKOSAPONIN A (CDXA-14-5196) IN PYRIDINE-d<sub>5</sub>



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**$^{13}\text{C}$ -NMR SPECTRUM OF SAIKOSAPONIN A (CDXA-14-5196) IN PYRIDINE- $d_5$** 

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**COSY-NMR SPECTRUM OF SAIKOSAPONIN A (CDXA-14-5196) IN PYRIDINE-d<sub>5</sub>**

**REVISION HISTORY**

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	08/28/2014	New report
01	03/28/2019	Passed re-evaluation by HPLC, KF. Updated expiration date analytical method, conditions, chromatograms, and results. Removed melting point and added RTECS number.

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