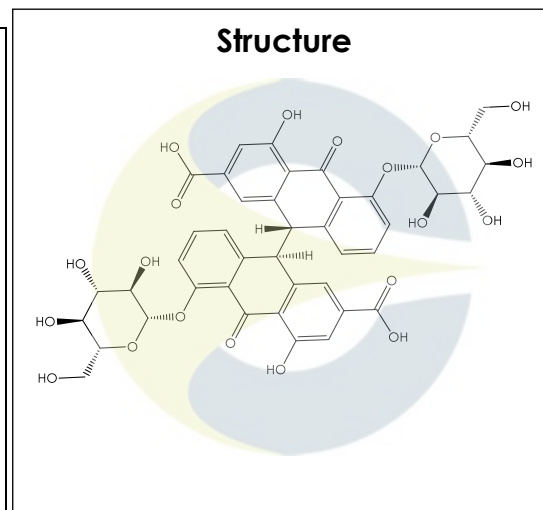


**Certificate of Analysis**

For Laboratory Use Only

<b>PRODUCT NAME</b>	Sennoside B
<b>PART NUMBER</b>	00019159
<b>STANDARD TYPE</b>	Primary (P)
<b>LOT NUMBER</b>	00019159-304
<b>REPORT NUMBER</b>	CDXA-RSS-9217-01
<b>SAMPLE NUMBER</b>	CDXP-20-00798
<b>DATE OF SAMPLE</b>	11/03/2020
<b>DATE OF RE-EVALUATION</b>	10/11/2021
<b>DATE OF REPORT</b>	10/21/2021



<b>CHEMICAL NAMES</b>	(9R,9'S)-5,5'-Bis(β-D-glucopyranosyloxy)-9,9',10,10'-tetrahydro-4,4'-dihydroxy-10,10'-dioxo-[9,9'-bianthracene]-2,2'-dicarboxylic acid
<b>CHEMICAL FORMULA</b>	C <sub>42</sub> H <sub>38</sub> O <sub>20</sub>
<b>MOLECULAR WEIGHT (MW)</b>	862.74
<b>CHEMICAL FAMILY</b>	Anthraquinones
<b>CAS NUMBER</b>	[128-57-4]
<b>EC#(EINECS)</b>	204-895-0
<b>RTECS</b>	VT6010000

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	93.0%
HPLC	0.700.10.2.METH22	≥ 90%	96.9%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	ND
Water	0.700.12.37	NA	4.0%
Appearance	NA	NA	Yellow powder

\*Testing performed at an ISO 17025 accredited subcontracted laboratory.

ADJUSTED PURITY: 93.0% IS BASED ON (100 - 0.0 SOLVENTS - 4.0 WATER) X 96.9% HPLC

**STORAGE CONDITIONS**

<b>STORAGE</b>	+4 °C in a dry place.
<b>EXPIRATION DATE</b>	10/2026 under the above conditions.

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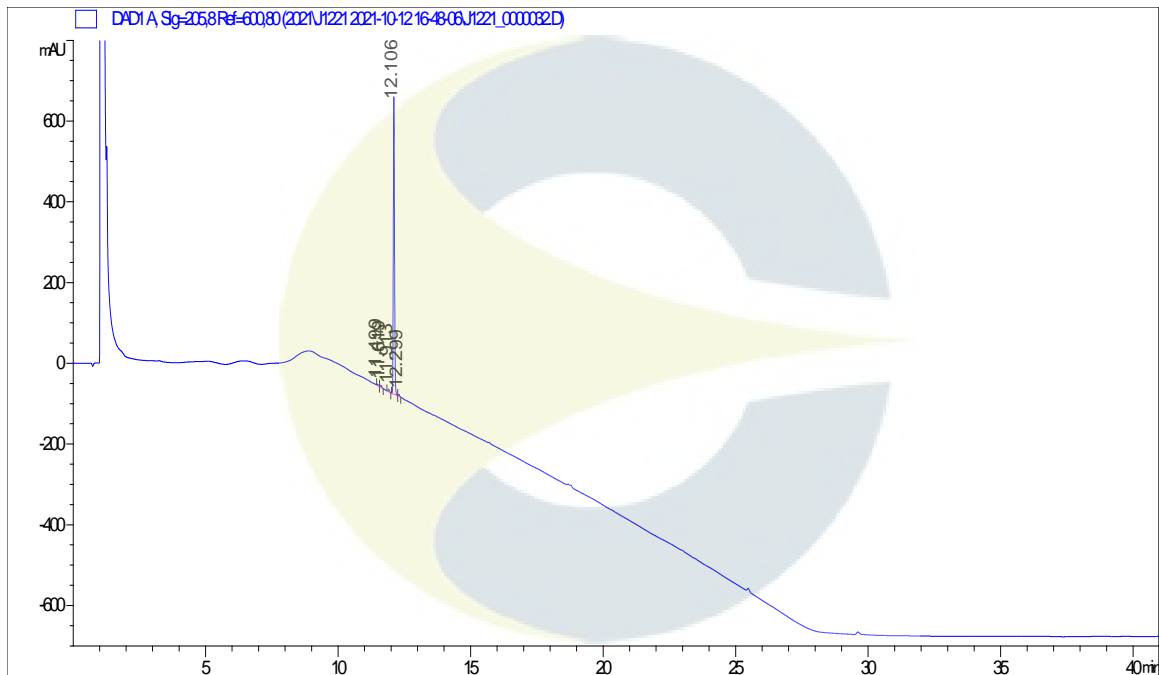
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**ANALYTICAL CONDITIONS**

<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.
<b>COLUMN TEMP.</b>	60 °C
<b>FLOW RATE</b>	0.4 mL/minute
<b>INJECTION VOL.</b>	0.2 µL
<b>INJECTION CONC.</b>	1.0 mg/mL in Dimethyl sulfoxide
<b>DETECTION</b>	205 ± 4 nm

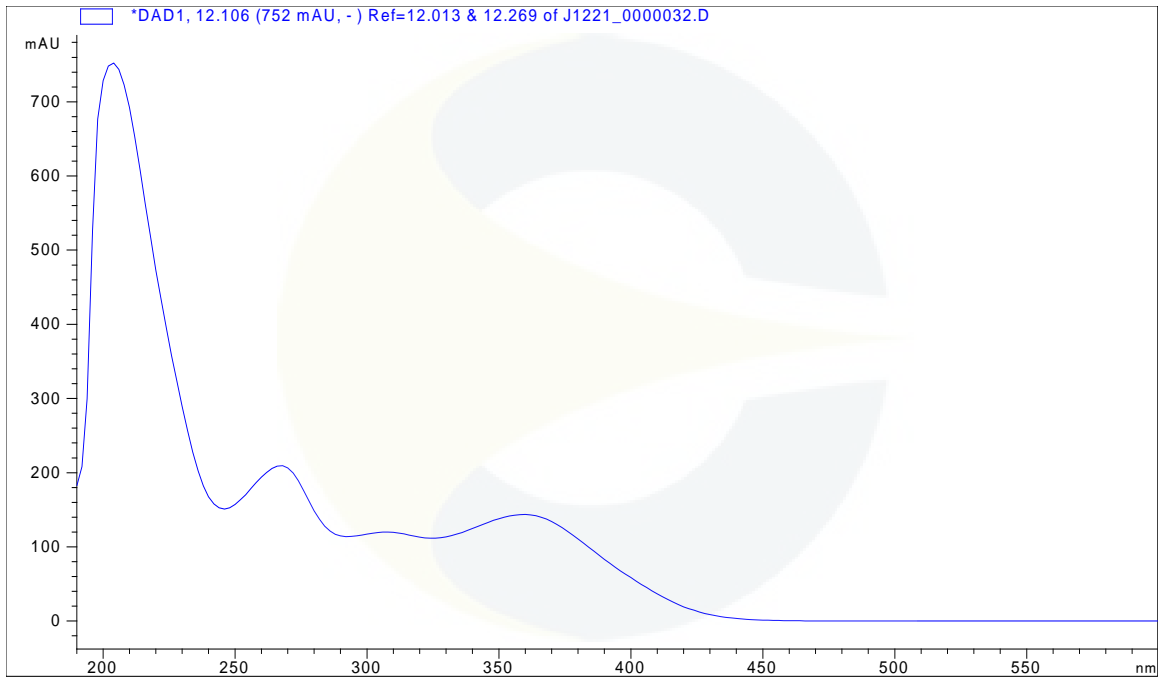
**HPLC CHROMATOGRAM OF SENNOSIDE B (CDXP-20-00798)**



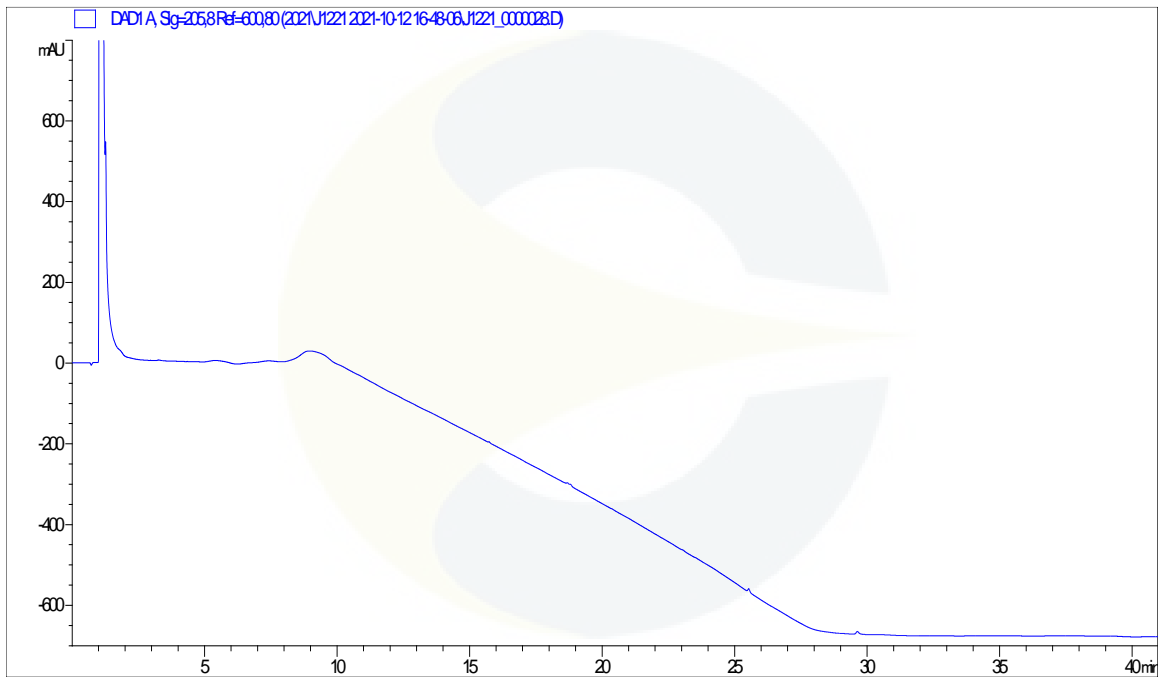
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**UV SPECTRUM AT RT = 12.1 MINUTES**

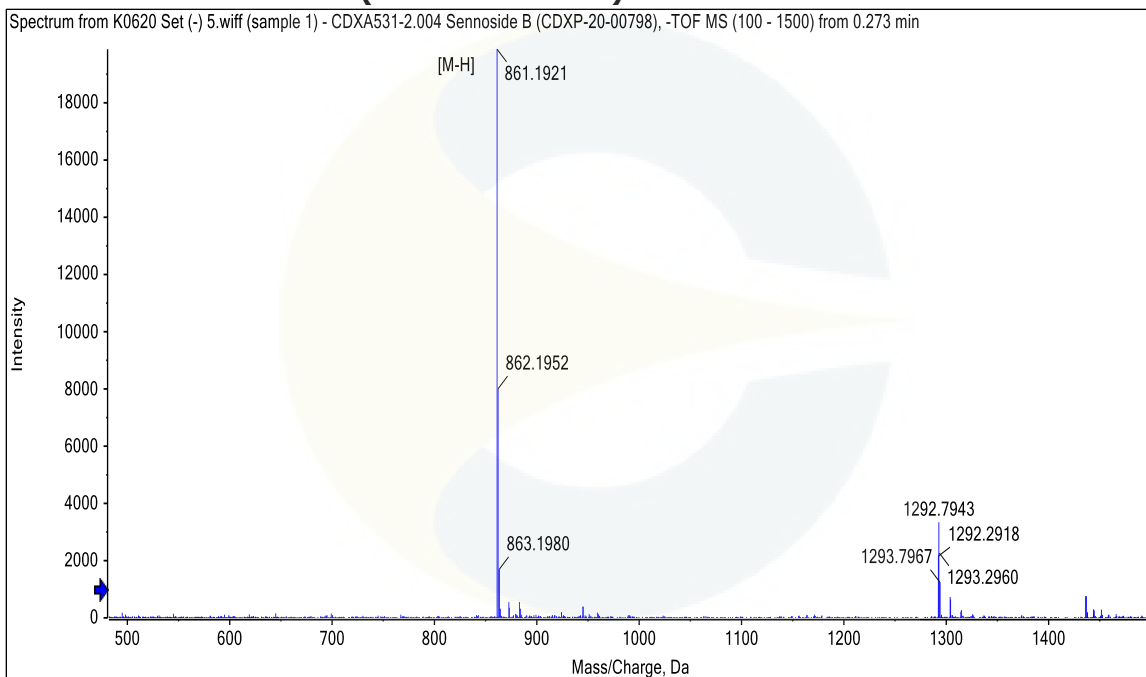


**HPLC CHROMATOGRAM OF DILUENT BLANK**

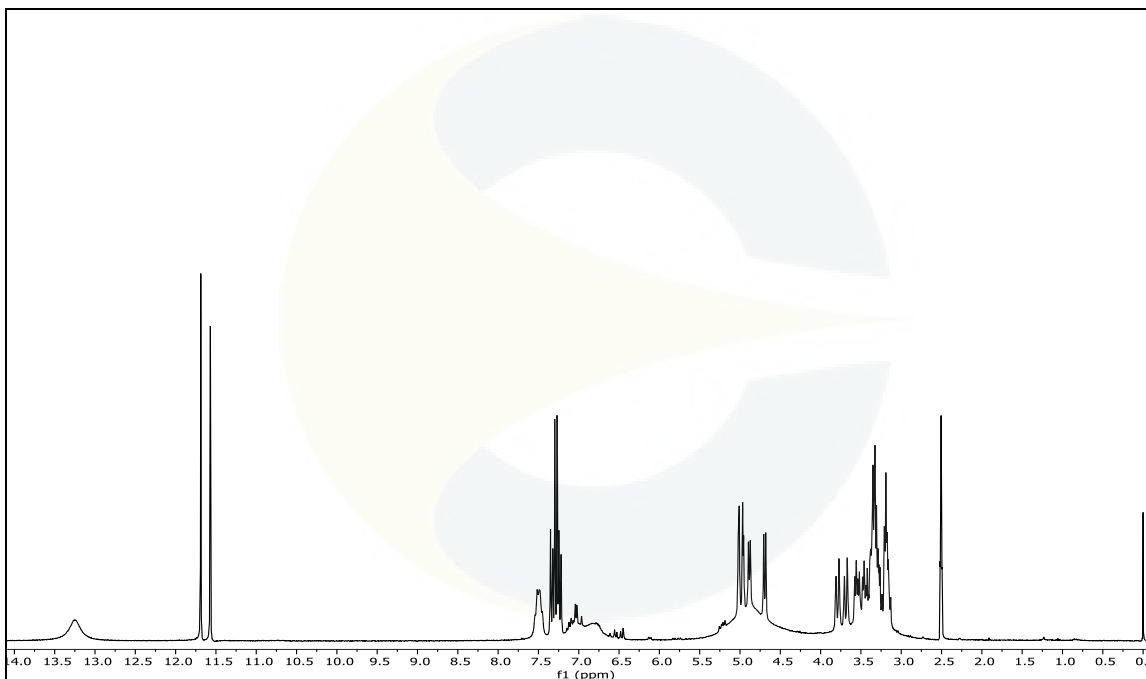


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**MASS SPECTRUM OF SENNOSIDE B (CDXP-20-00798)**

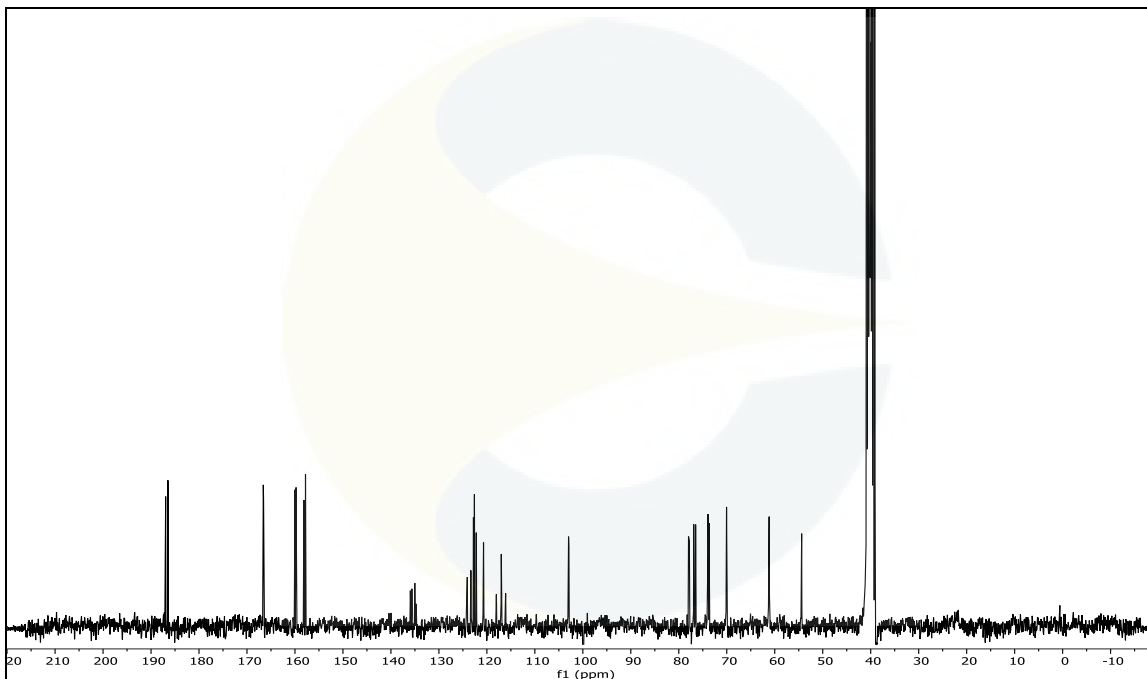


**<sup>1</sup>H-NMR SPECTRUM OF SENNOSIDE B (CDXP-20-00798) IN DMSO-d<sub>6</sub> + TMS**

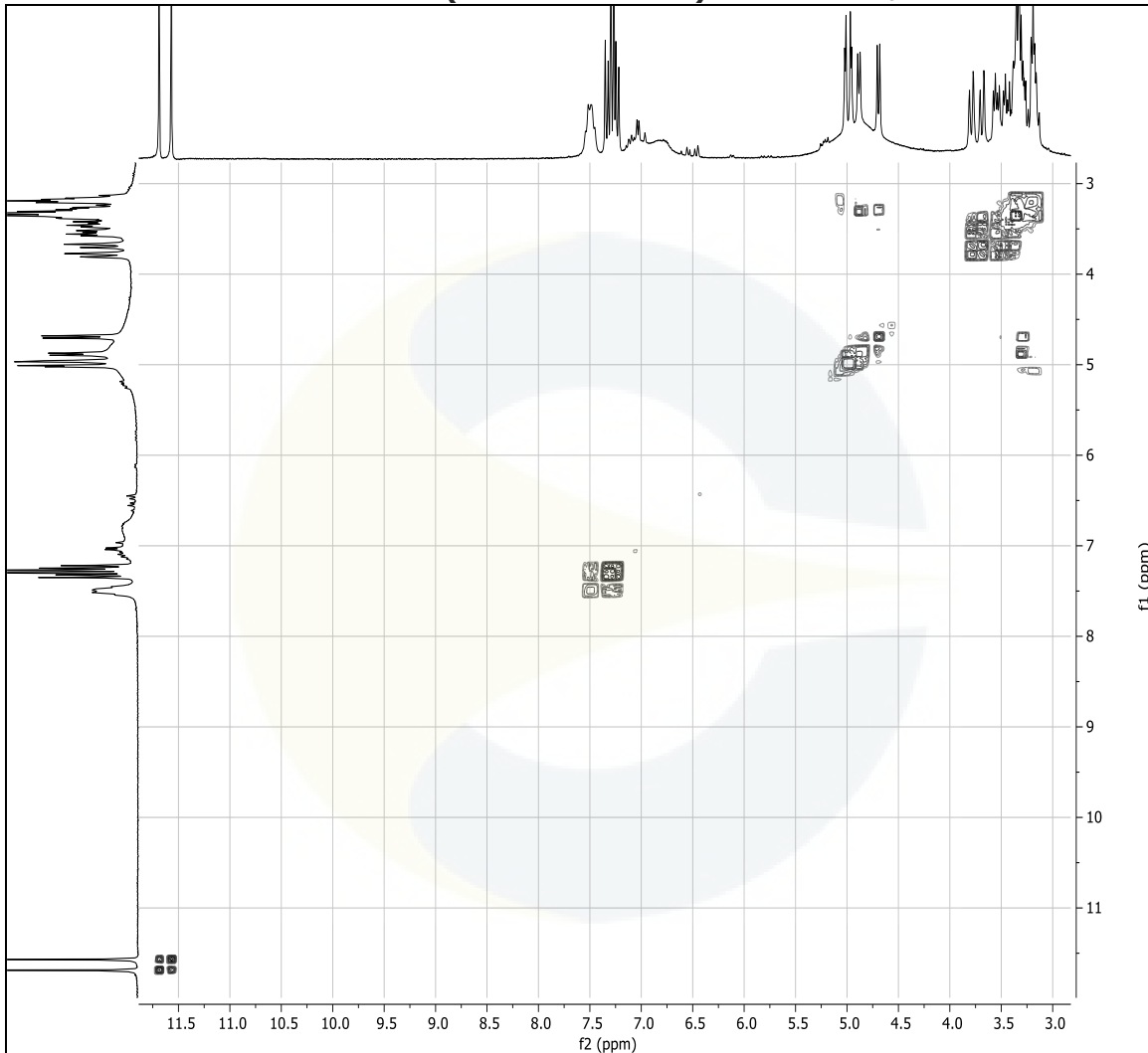


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<sup>13</sup>C-NMR SPECTRUM OF SENNOSIDE B (CDXP-20-00798) IN DMSO-d<sub>6</sub> + TMS



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**COSY-NMR SPECTRUM OF SENNOSIDE B (CDXP-20-00798) IN DMSO- $d_6$  + TMS**

**REVISION HISTORY**

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	12/04/2020	New report
01	10/21/2021	Passed re-evaluation by HPLC, KF. Updated expiration date, analytical results, analytical conditions, and chromatograms.

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