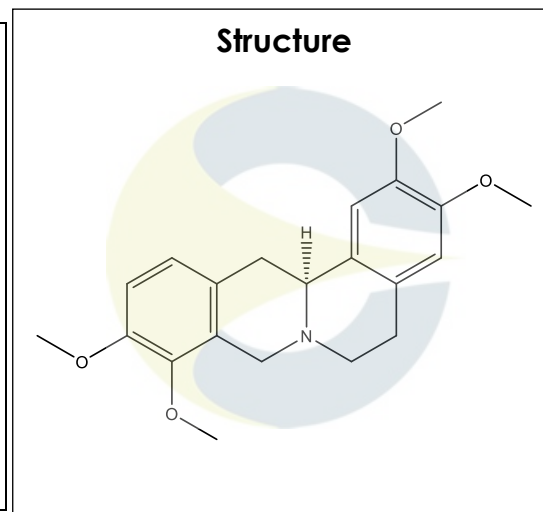


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PRODUCT NAME	L-Tetrahydropalmatine
PART NUMBER	00020173
STANDARD TYPE	Primary (P)
LOT NUMBER	00020173-0720
REPORT NUMBER	CDXA-RSS-4883-02
SAMPLE NUMBER	CDXA-12-0720
DATE OF SAMPLE	02/14/2012
DATE OF RE-EVALUATION	03/31/2017(1 st); 05/10/2021 (2 nd)
DATE OF REPORT	05/24/2021



CHEMICAL NAMES	(-)-Corydalis B; (-)-Tetrahydropalmatine; 2,3,9,10-Tetramethoxy-13 α - α -berbine; Caseanine; Gindarine; Hyndarine; Rotundine
CHEMICAL FORMULA	C ₂₁ H ₂₅ NO ₄
MOLECULAR WEIGHT (MW)	355.43
CHEMICAL FAMILY	Alkaloids
CAS NUMBER	[483-14-7]
EC#(EINECS)	811-160-3
RTECS	HQ1792500

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	99.7%
HPLC	0.700.10.2.METH22	≥ 90%	99.7%
NMR	4.5.3-CD-1.0-000338	Conforms to structure	Conforms to structure
Mass Spectrum	Direct Infusion, ESI (+)	Conforms	Conforms
Residual Solvent	99.1-CD-5.0-000115	NA	ND
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

ADJUSTED PURITY: 99.7% IS BASED ON (100 - 0.0 SOLVENTS - 0.0 WATER) X 99.7% HPLC

STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	05/2026 under the above conditions.

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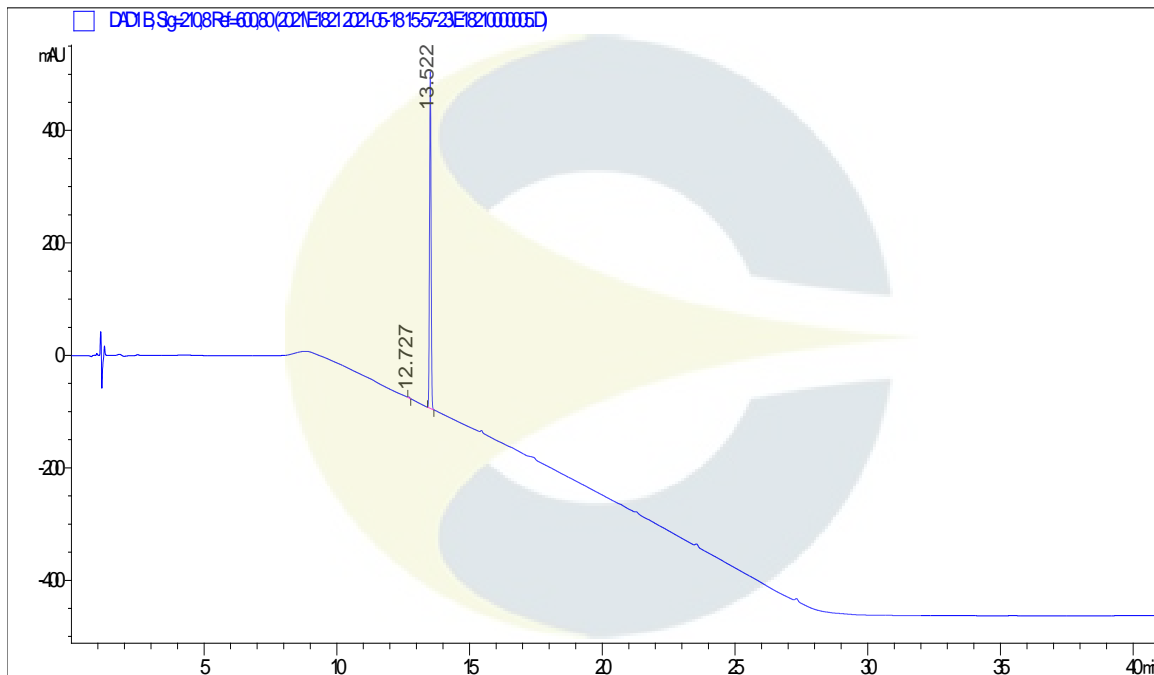
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ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AGILENT 6510 QTOF
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.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.1 µL
INJECTION CONC.	1.0 mg/mL in Methanol
DETECTION	210 ± 4 nm

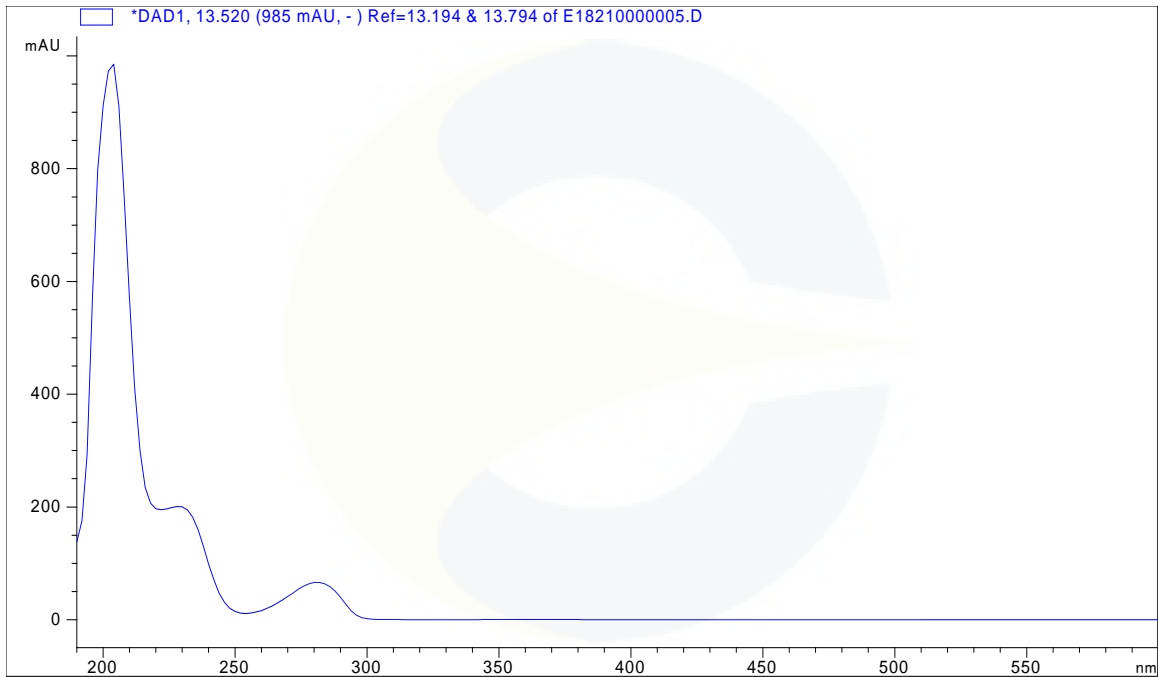
HPLC CHROMATOGRAM OF L-TETRAHYDROPALMATINE (CDXA-12-0720)



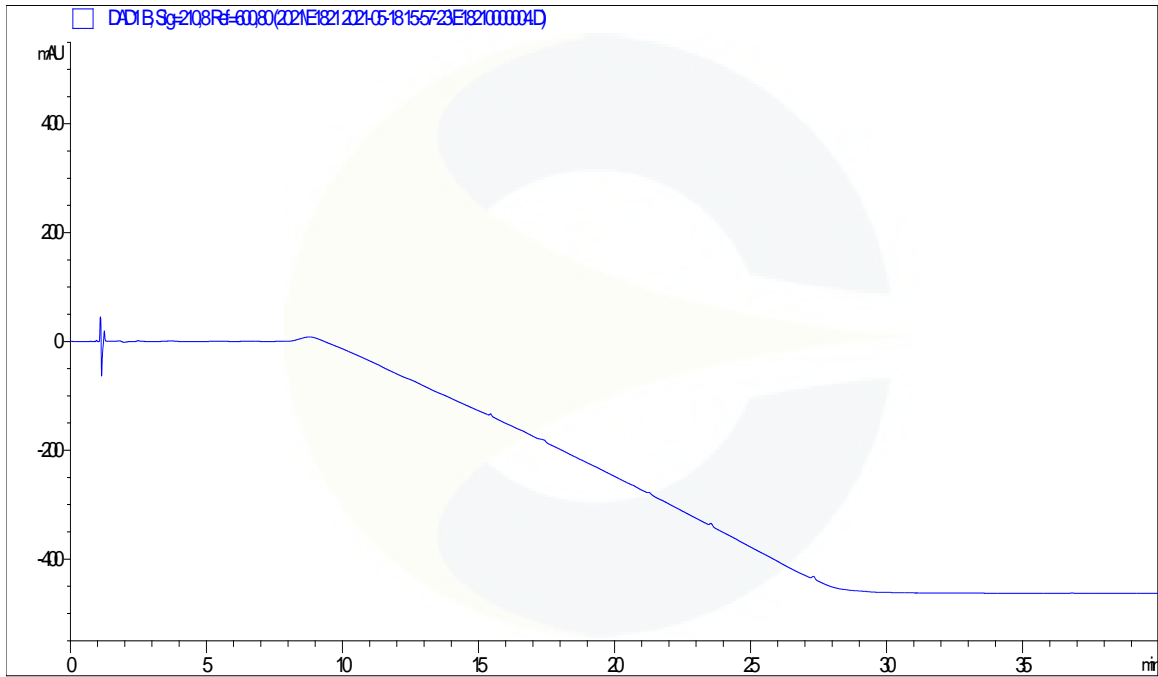
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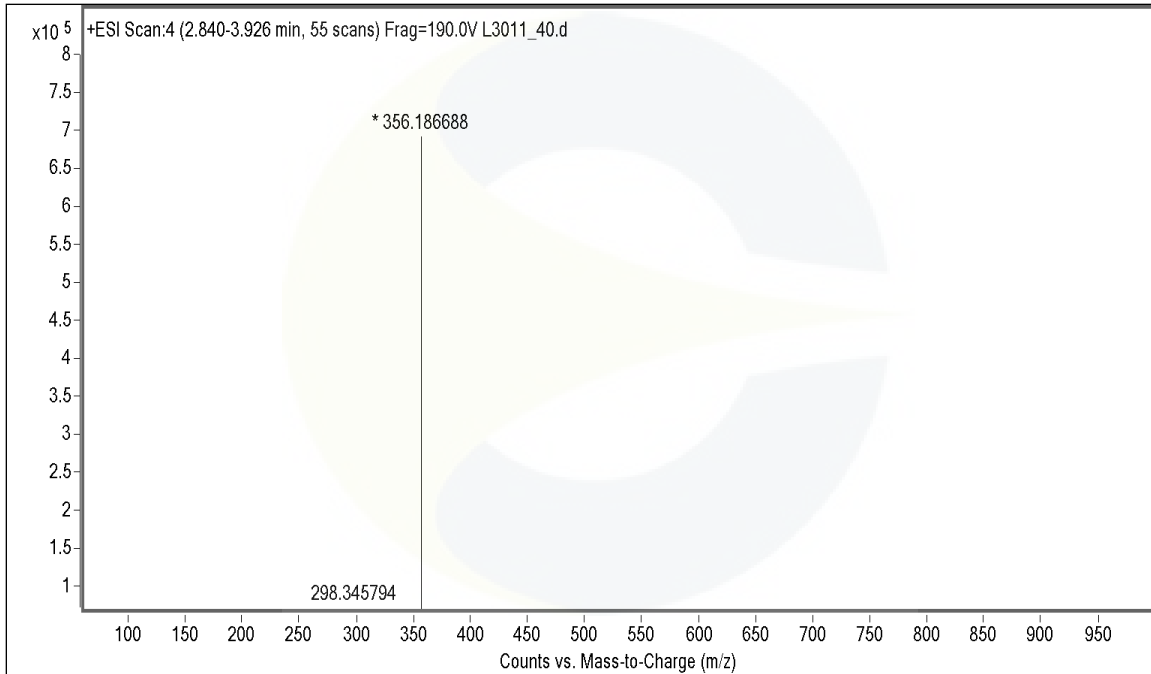
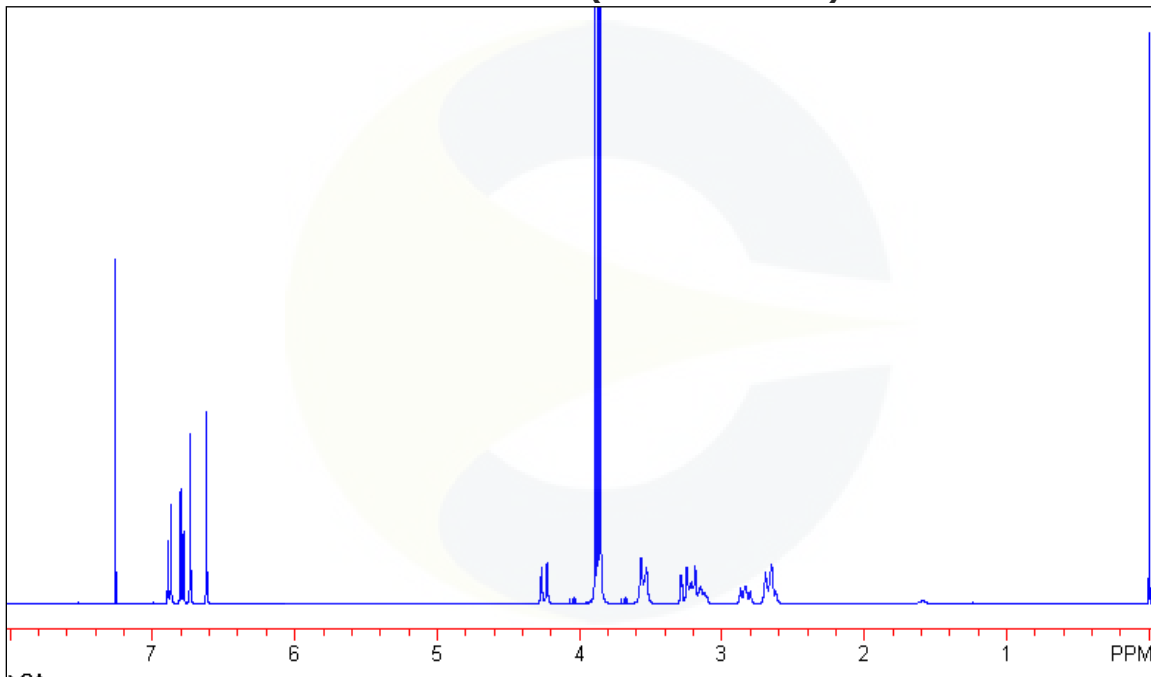
UV SPECTRUM AT RT 13.5 MINUTES



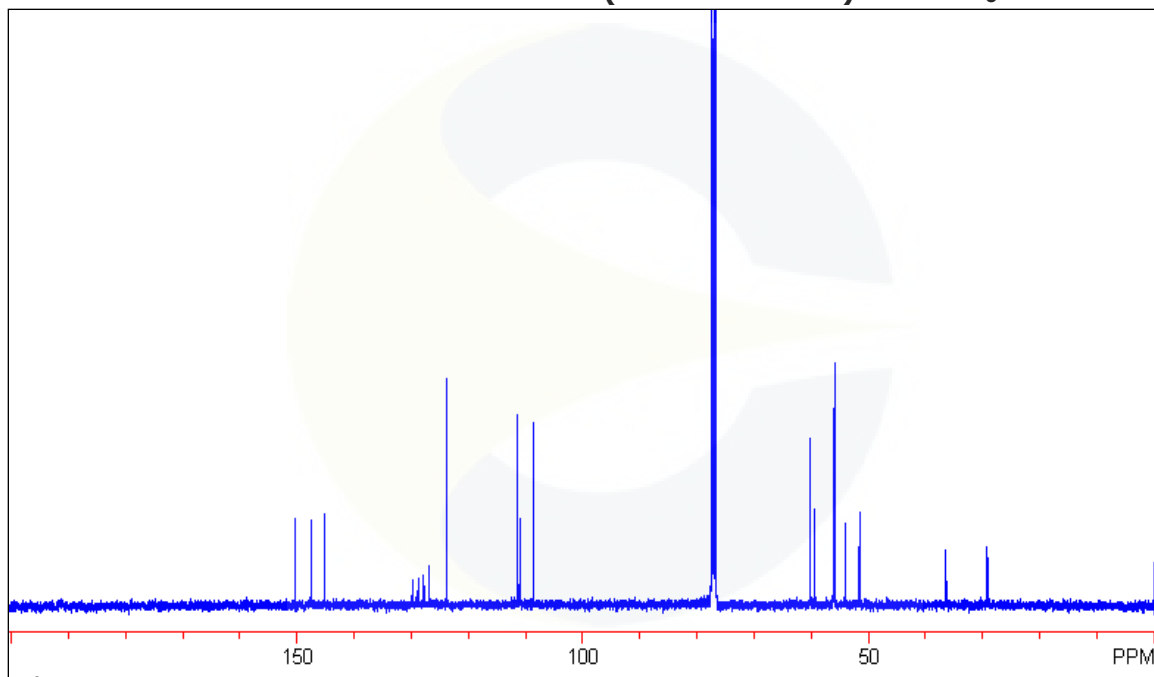
HPLC CHROMATOGRAM OF DILUENT BLANK



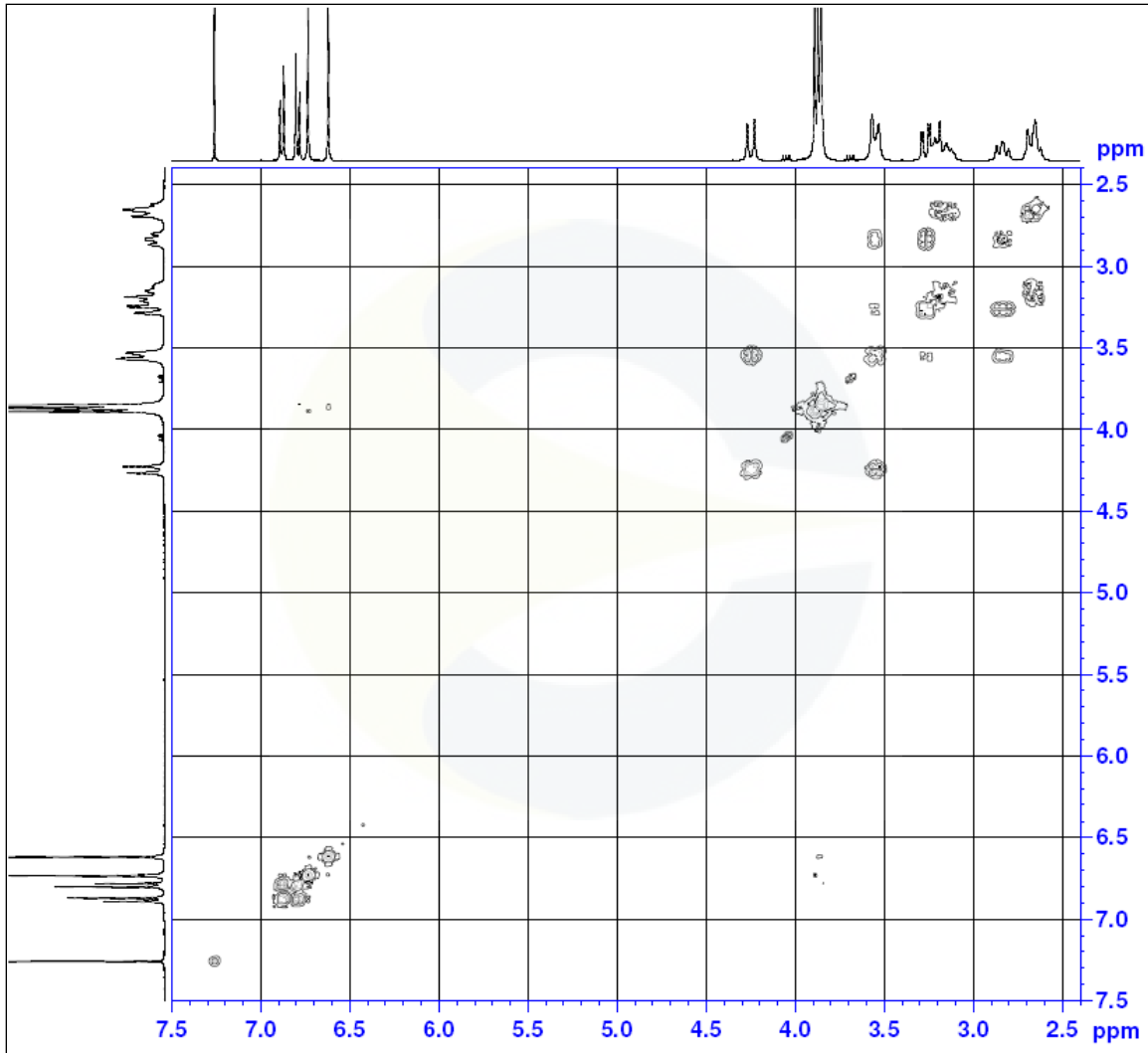
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MASS SPECTRUM OF L-TETRAHYDROPALMATINE (CDXA-12-0720)**¹H-NMR SPECTRUM OF L-TETRAHYDROPALMATINE (CDXA-12-0720) IN CDCl₃**

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¹³C-NMR SPECTRUM OF L-TETRAHYDROPALMATINE (CDXA-12-0720) IN CDCl₃

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COSY-NMR SPECTRUM OF L-TETRAHYDROPALMATINE (CDXA-12-0720) IN CDCl₃

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	03/09/2012	New report
01	04/21/2017	Passed re-evaluation by HPLC and KF. Updated expiration date, melting point, analytical method, analytical conditions, analytical chromatograms, and results.
02	05/24/2021	Passed second re-evaluation by HPLC and KF. Updated expiration date, analytical results, analytical conditions, and chromatograms. Removed melting point and added EINECS.

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