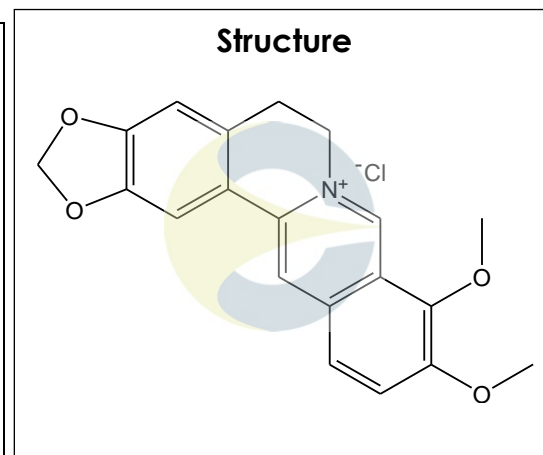


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PRODUCT NAME	Berberine Chloride
PART NUMBER	00002201
STANDARD TYPE	Primary (P)
LOT NUMBER	00002201-7PI
REPORT NUMBER	CDXA-RSS-8787-00
SAMPLE NUMBER	CDXP-19-00786
DATE OF SAMPLE	01/03/2020
DATE OF REPORT	02/06/2020



CHEMICAL NAMES	7,8,13,13a-Tetrahydro-9,10-dimethoxy-2,3-(methylenedioxy)-berbinium chloride; Berberinium chloride; Berberine hydrochloride
CHEMICAL FORMULA	C ₂₀ H ₁₈ NO ₄ Cl
MOLECULAR WEIGHT (MW)	371.81
CHEMICAL FAMILY	Alkaloids
CAS NUMBER	[633-65-8]
EC#(EINECS)	211-195-9
RTECS	DR9866400

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	90.0%
HPLC	0.700.10.2.METH22	NA	98.5%
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	8.6%
Appearance	NA	NA	Yellow powder

*Testing performed at an ISO 17025 accredited subcontracted laboratory.
 ADJUSTED PURITY: 90.0% IS BASED ON (100 - 0.0 SOLVENTS - 8.6 WATER) X 98.5% HPLC

STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	01/2025 under the above conditions.

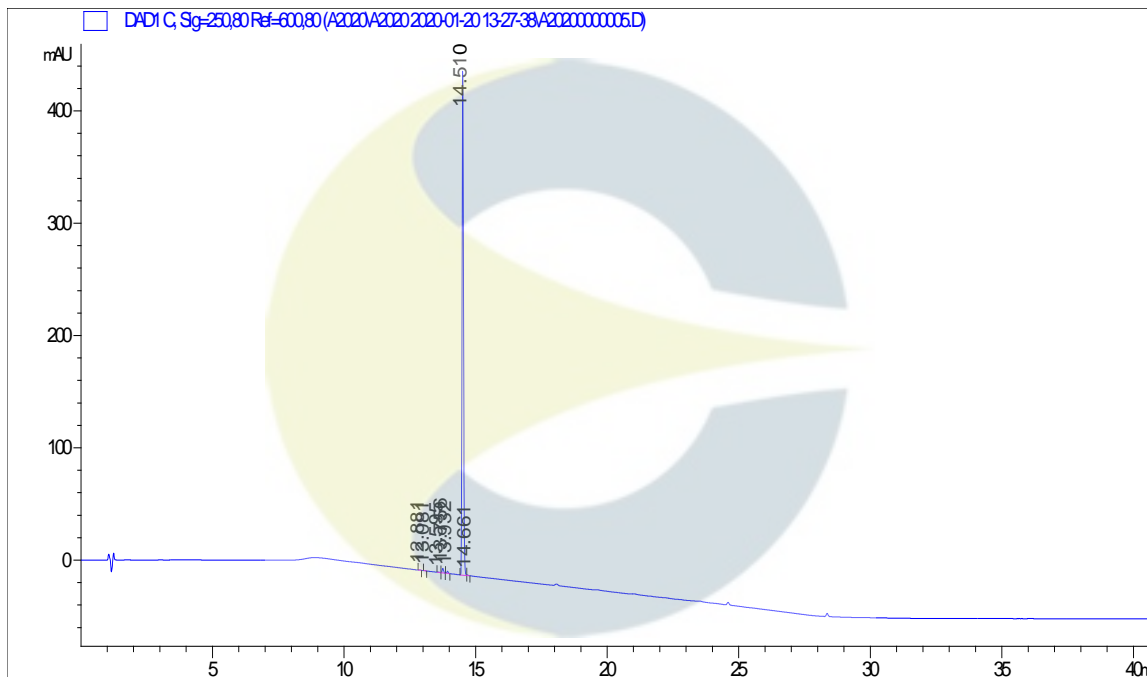
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ANALYTICAL CONDITIONS

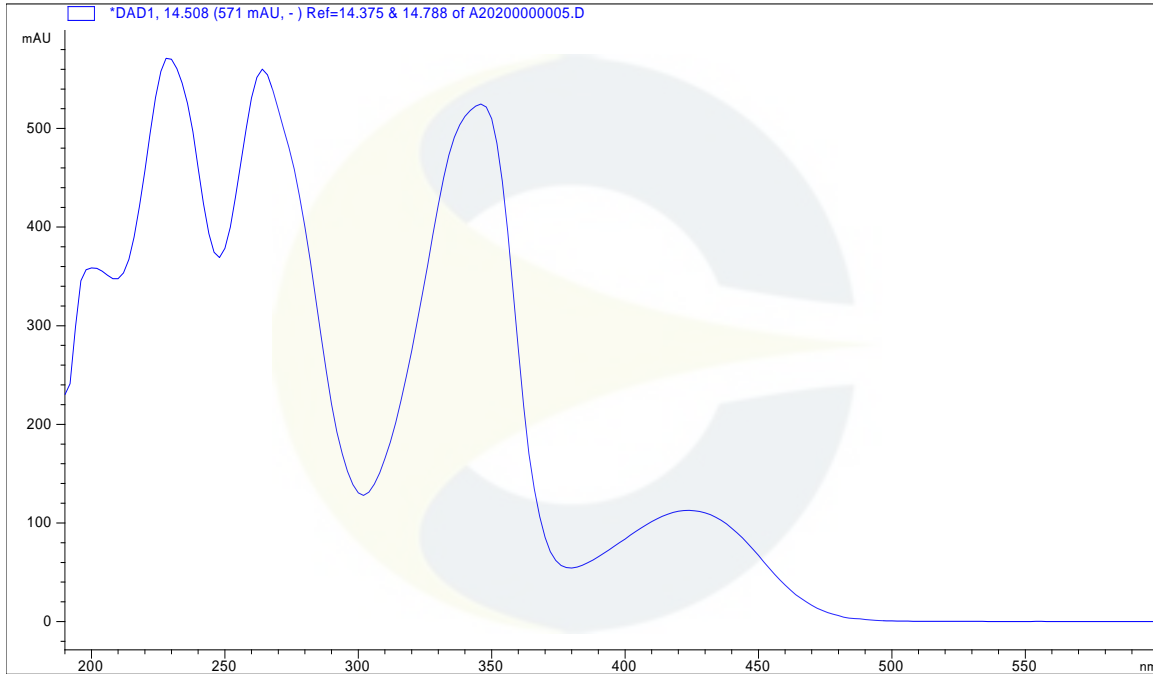
INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 QTOF
COLUMN	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
MOBILE PHASE	A - 0.1% Trifluoroacetic acid in Ultrapure water, B - Acetonitrile; Isocratic 5% B for 5 minutes, then increasing to 95% B over 20 minutes. Hold at 95% B for 15 minutes.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.2 µL
INJECTION CONC.	1.1 mg/mL in Methanol
DETECTION	250 ± 40 nm

HPLC CHROMATOGRAM OF BERBERINE CHLORIDE (CDXP-19-00786)


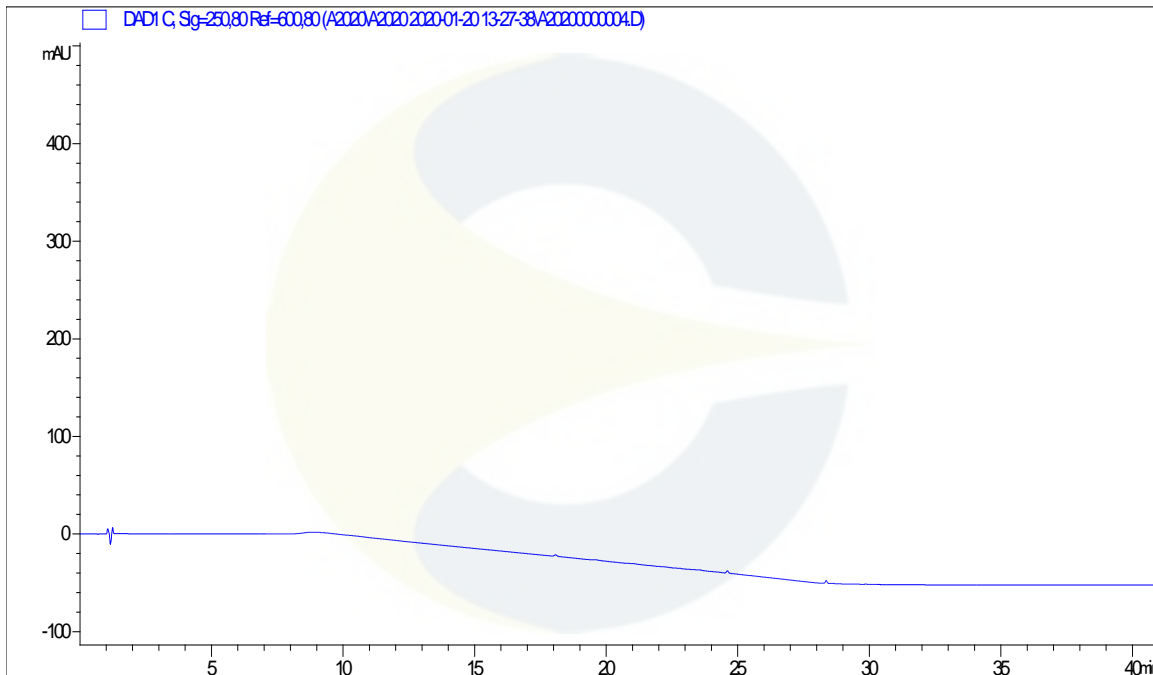
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UV SPECTRUM AT RT = 14.5 MINUTES

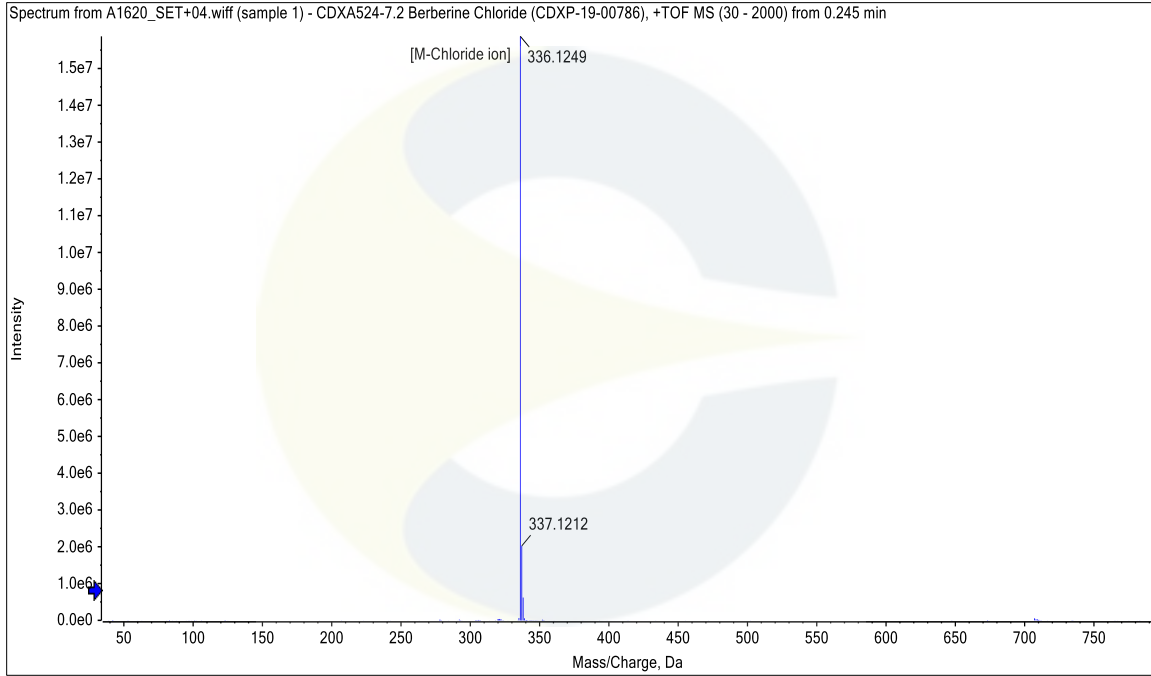


HPLC CHROMATOGRAM OF DILUENT BLANK

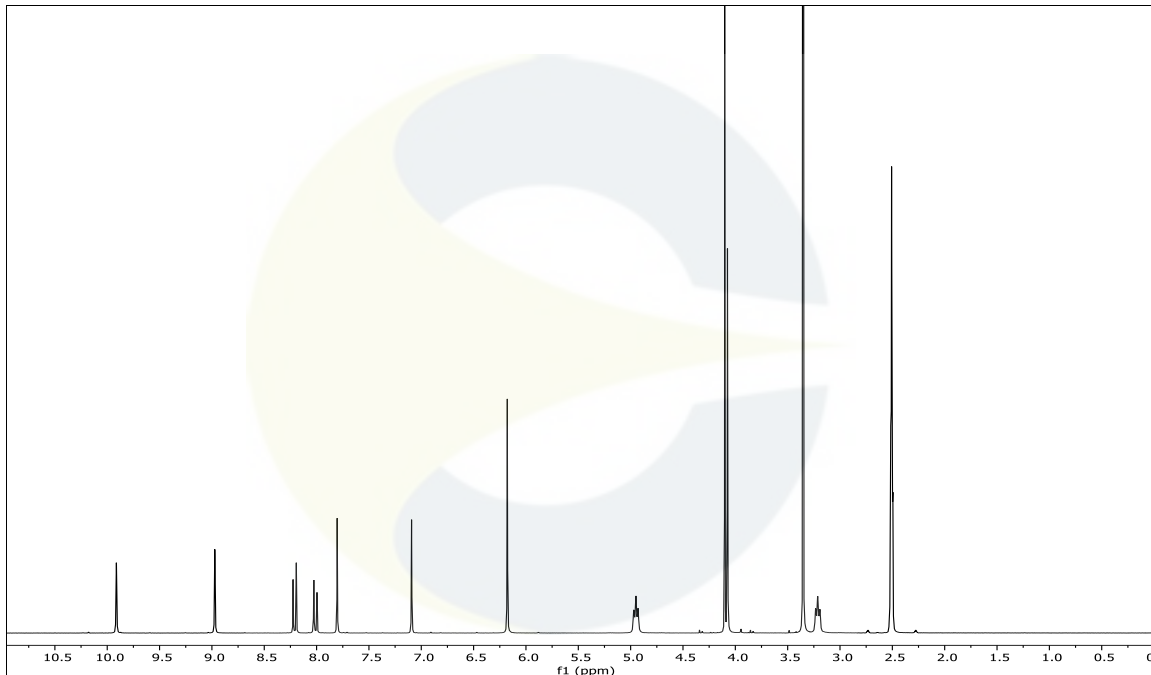


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MASS SPECTRUM OF BERBERINE CHLORIDE (CDXP-19-00786)

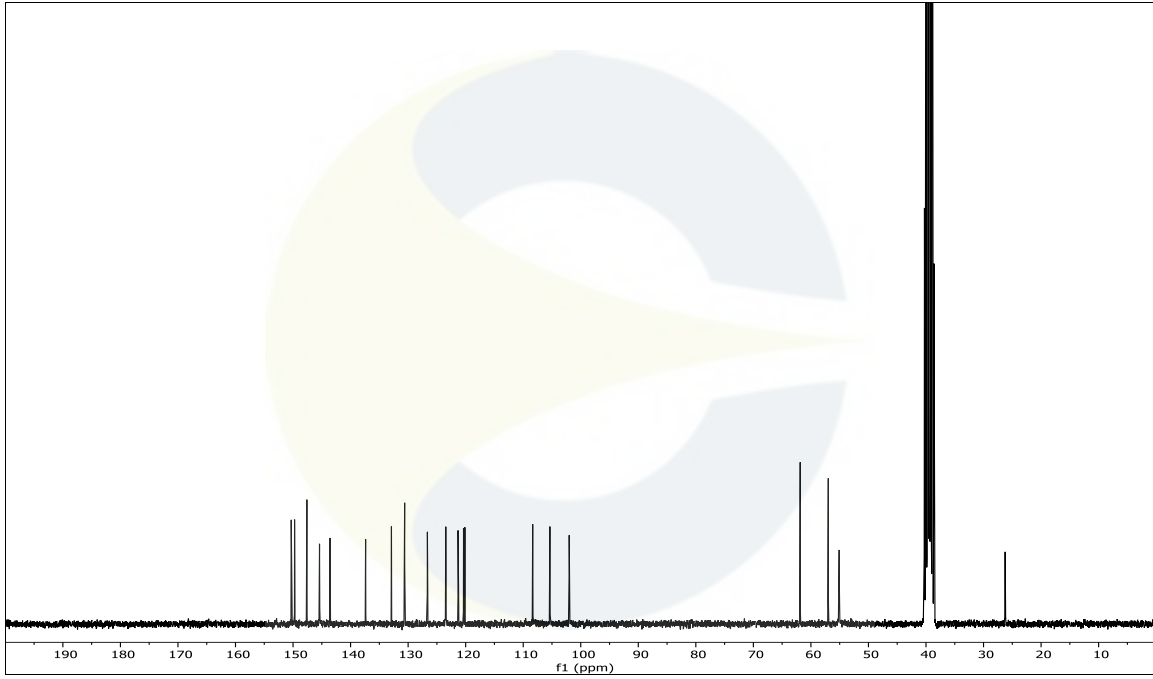


¹H-NMR SPECTRUM OF BERBERINE CHLORIDE (CDXP-19-00786) IN DMSO-d₆

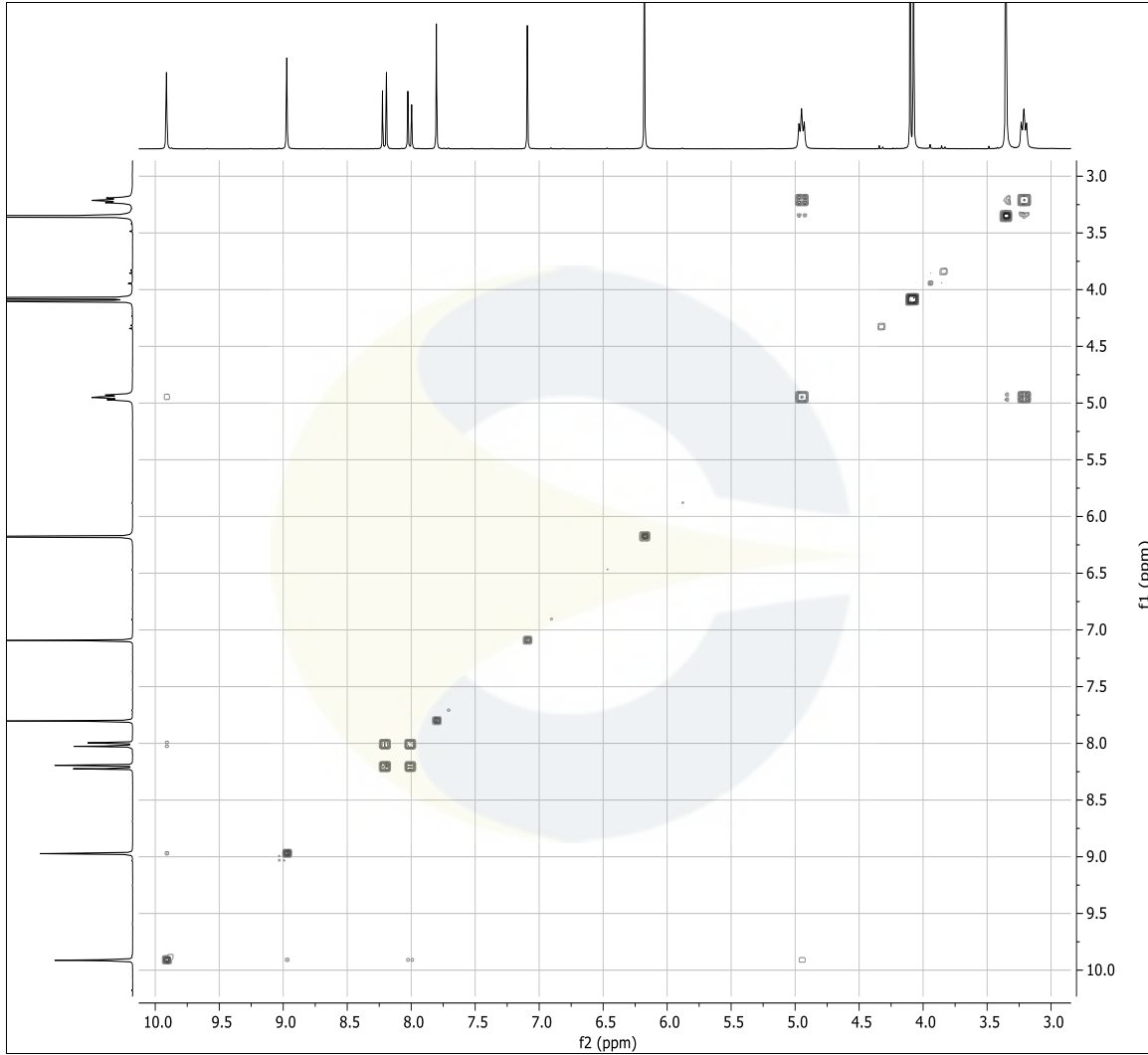


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¹³C-NMR SPECTRUM BERBERINE CHLORIDE (CDXP-19-00786) IN DMSO-d₆



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COSY-NMR SPECTRUM OF BERBERINE CHLORIDE (CDXP-19-00786) IN DMSO-d₆

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	02/06/2020	New report

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