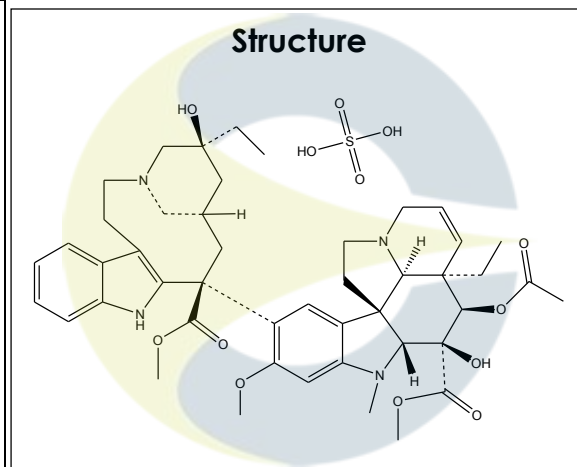


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PRODUCT NAME	Vinblastine sulfate
PART NUMBER	00022518
STANDARD TYPE	Primary (P)
LOT NUMBER	00022518-911
REPORT NUMBER	CDXA-RSS-4730-01
SAMPLE NUMBER	CDXA-11-4965
DATE OF SAMPLE	09/07/2011
DATE OF RE-EVALUATION	05/03/2016
DATE OF REPORT	05/17/2016



CHEMICAL NAMES	Vincalurekoblamine sulfate (1:1); Velban; Velbe; Velsar
CHEMICAL FORMULA	C ₄₆ H ₅₈ N ₄ O ₉ ·H ₂ O ₄ S
MOLECULAR WEIGHT (MW)	909.05
PUBLISHED MELTING POINT	NA
CHEMICAL FAMILY	Alkaloids
CAS NUMBER	[143-67-9]
EINECS	205-606-0
RTECS	YY8400000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	88.0%
HPLC	CDXA-CPM-056-00	NA	97.4%
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-5.0-000115	NA	EtOH – 6.9%
Water	99.1-CDXA-3.0-000094	NA	2.7%
Appearance	NA	NA	White to Yellow Powder

ADJUSTED PURITY: 88.0% IS BASED ON (100 – 2.7 WATER – 6.9 SOLVENTS) X 97.4% HPLC

STORAGE CONDITIONS

STORAGE	+4 °C in a dry place.
EXPIRATION DATE	05/2021 under the above conditions.

Digitally signed by Christopher Ferlin
DN: cn=Christopher Ferlin, o=ChromaDex Inc., ou=Quality Assurance, email=Chris@chromadex.com, c=US
Date: 2016.05.25 13:37:46 -0600

Christopher Ferlin

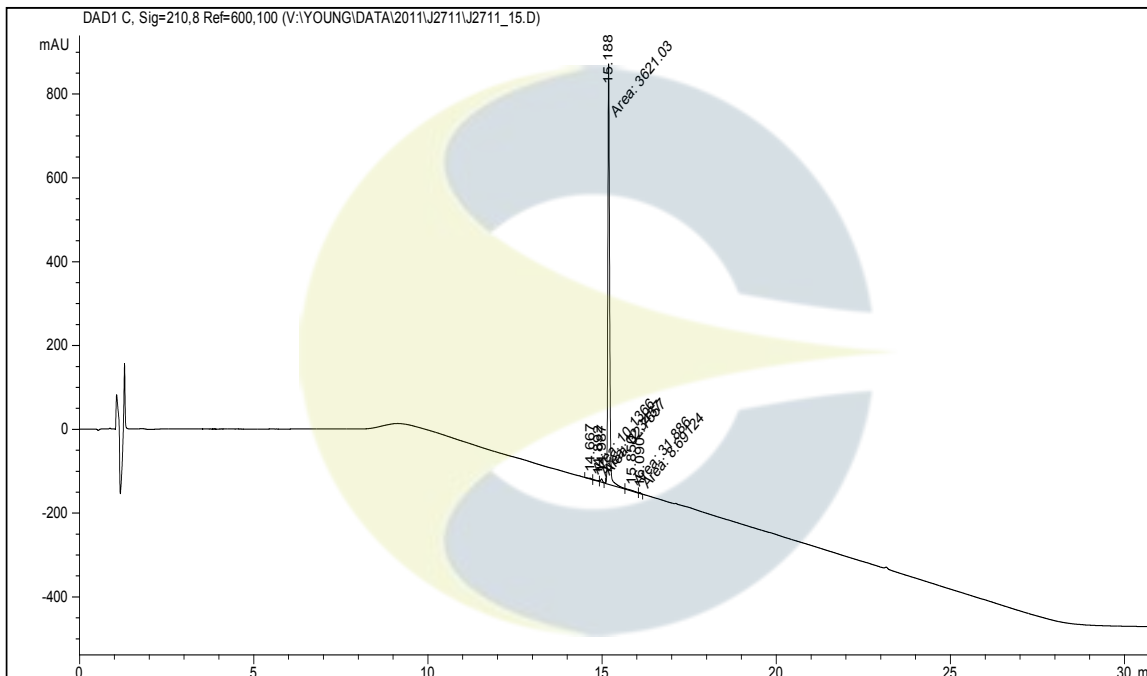
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ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1100 HPLC UV-VIS (DAD) DETECTOR (YOUNG), AGILENT 6510 QTOF (AVOGADRO)
COLUMN	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size; S/N 573498-6
MOBILE PHASE	A - 0.1% Trifluoroacetic acid in Milli-Q water, B - Acetonitrile; Isocratic 5% B for 5 minutes, then increasing to 95% B over 20 minutes. Hold at 95% B for 5 minutes.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.5 µL
INJECTION CONC.	1.0 mg/mL in Methanol
DETECTION	210 ± 4 nm

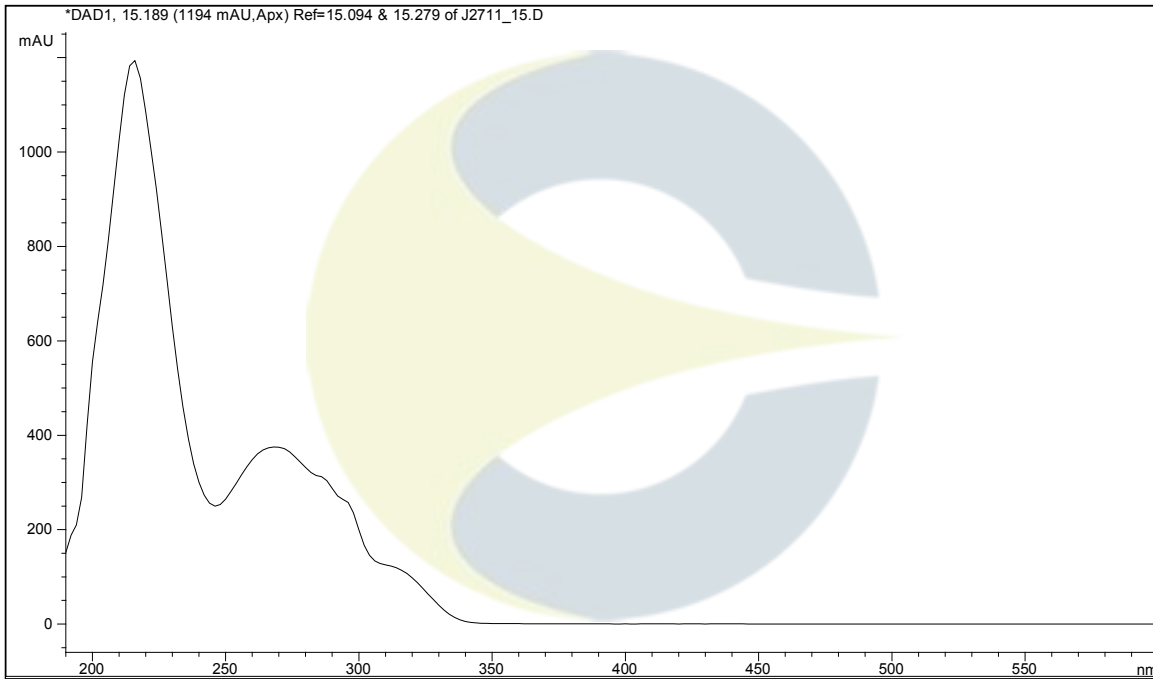
HPLC CHROMATOGRAM OF VINBLASTINE SULFATE (CDXA-11-4965)



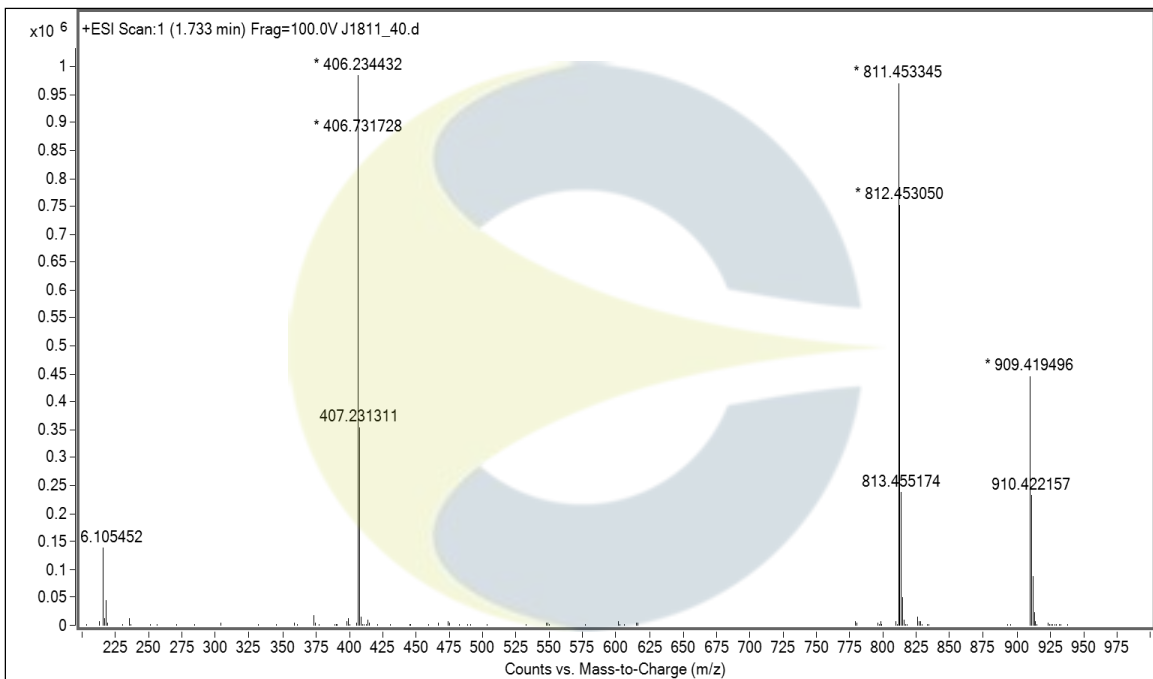
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UV SPECTRUM AT RT = 15.2 MINUTES



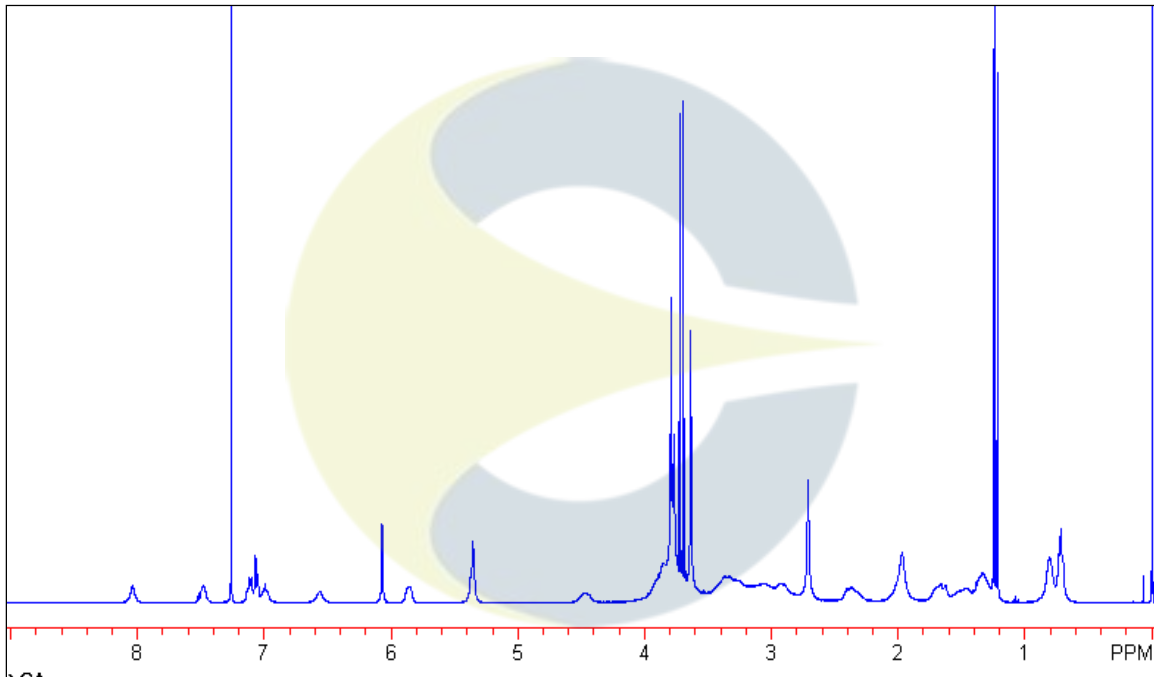
MASS SPECTRUM OF VINBLASTINE SULFATE (CDXA-11-4965)



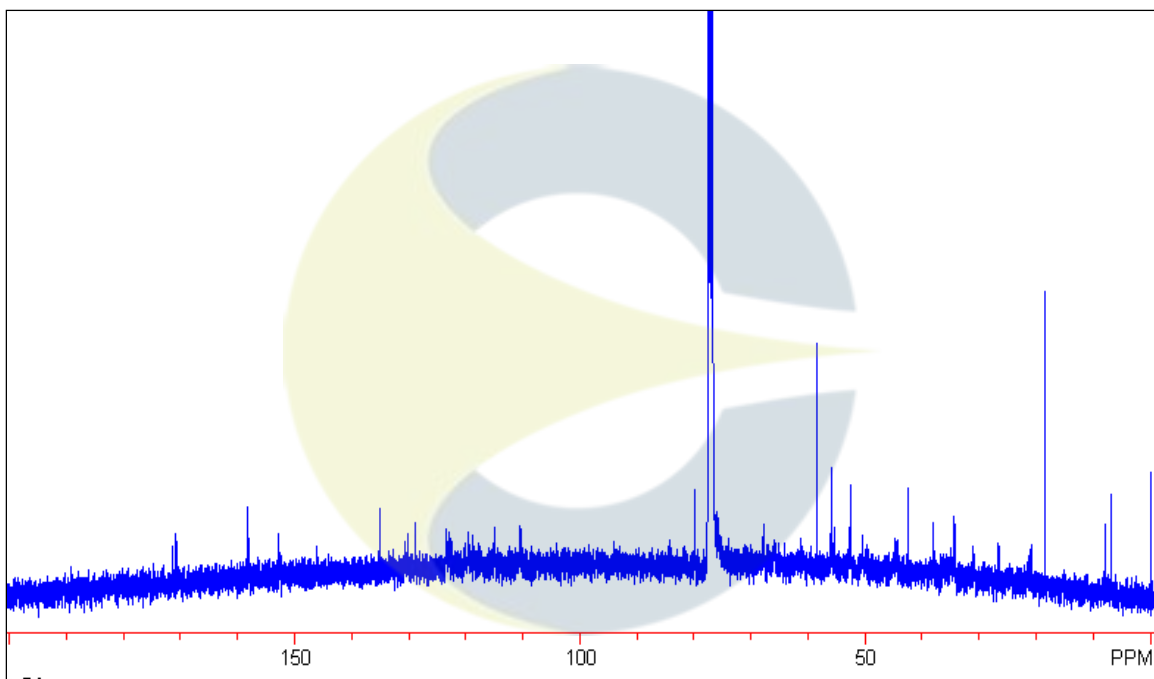
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¹H-NMR SPECTRUM OF VINBLASTINE SULFATE (CDXA-11-4965) IN CDCl₃



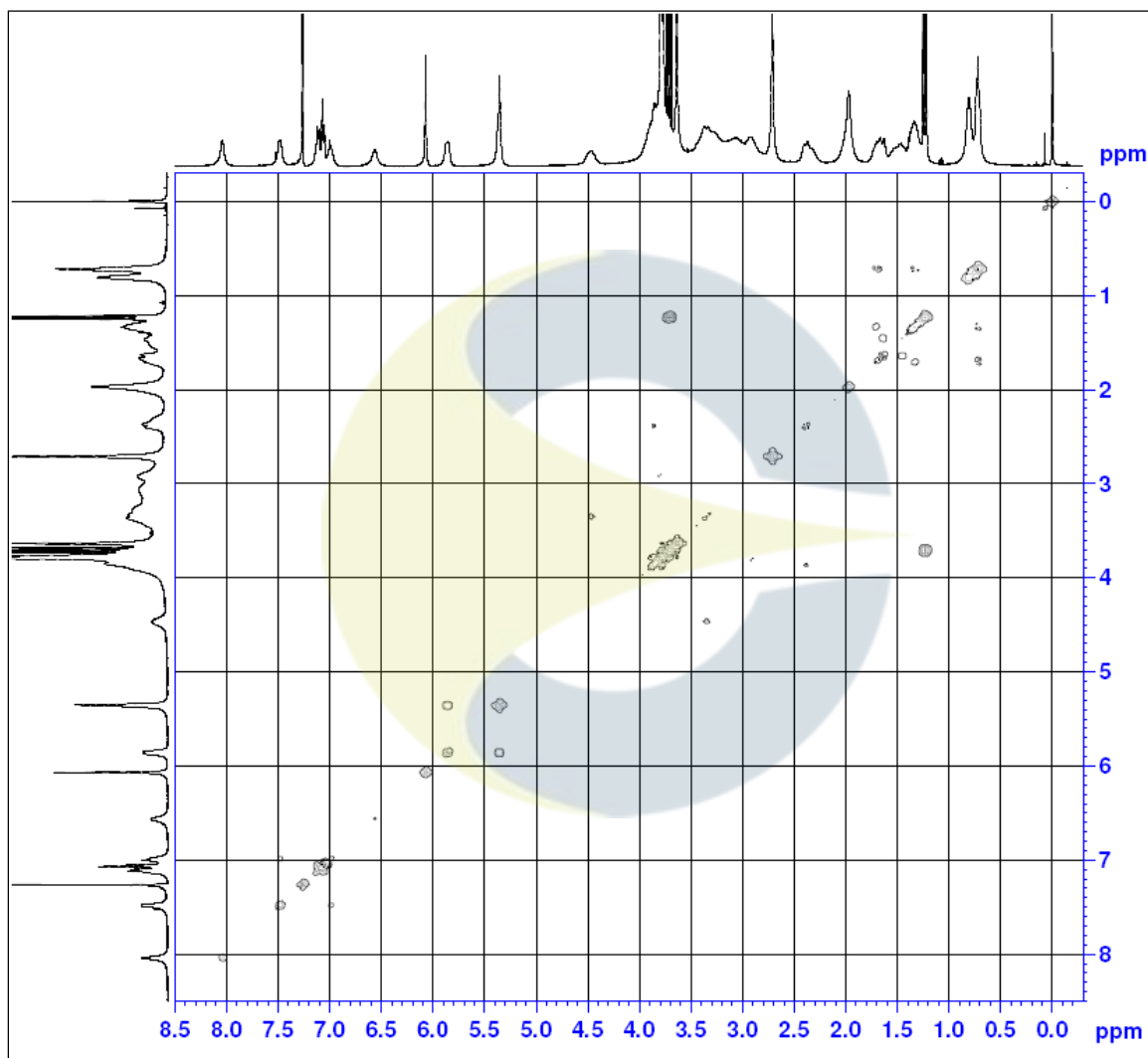
¹³C-NMR SPECTRUM OF VINBLASTINE SULFATE (CDXA-11-4965) IN CDCl₃



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COSY-NMR SPECTRUM OF VINBLASTINE SULFATE (CDXA-11-4965) IN CDCl₃



REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	11/03/2011	New report
01	05/17/2016	Passed re-evaluation by HPLC, KF. Updated expiration date, Chemical structure, chemical names, chemical formula and melting point.