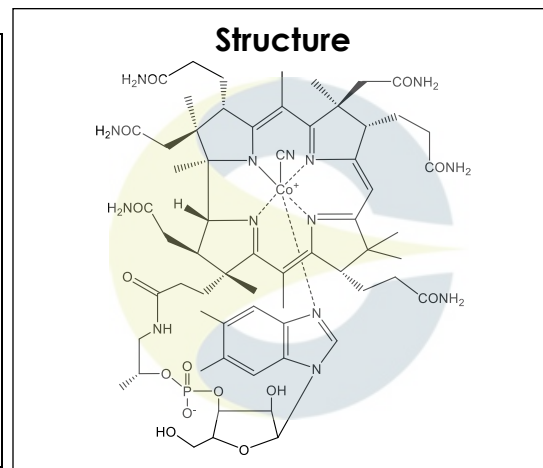


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PRODUCT NAME	Vitamin B12
PART NUMBER	00022742
STANDARD TYPE	Primary (P)
LOT NUMBER	00022742-901
REPORT NUMBER	CDXA-RSS-8999-00
SAMPLE NUMBER	CDXP-20-00189
DATE OF SAMPLE	03/26/2020
DATE OF REPORT	06/22/2020



CHEMICAL NAMES	5,6-Dimethylbenzimidazolyl cyanocobamide; Cyanocobalamin
CHEMICAL FORMULA	C ₆₃ H ₈₈ CoN ₁₄ O ₁₄ P
MOLECULAR WEIGHT (MW)	1355.37
CHEMICAL FAMILY	Vitamins
CAS NUMBER	[68-19-9]
EC#(EINECS)	200-680-0
RTECS	GG3750000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	94.2%
HPLC	0.700.10.2.METH22	NA	98.1%
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	Purple Powder

*Testing performed at an ISO 17025 accredited subcontracted laboratory.

ADJUSTED PURITY: 94.2% IS BASED ON (100 - 0.0 SOLVENTS - 4.0 WATER) X 98.1% HPLC

STORAGE CONDITIONS

STORAGE	+4 °C in a dry place.
EXPIRATION DATE	03/2025 under the above conditions.

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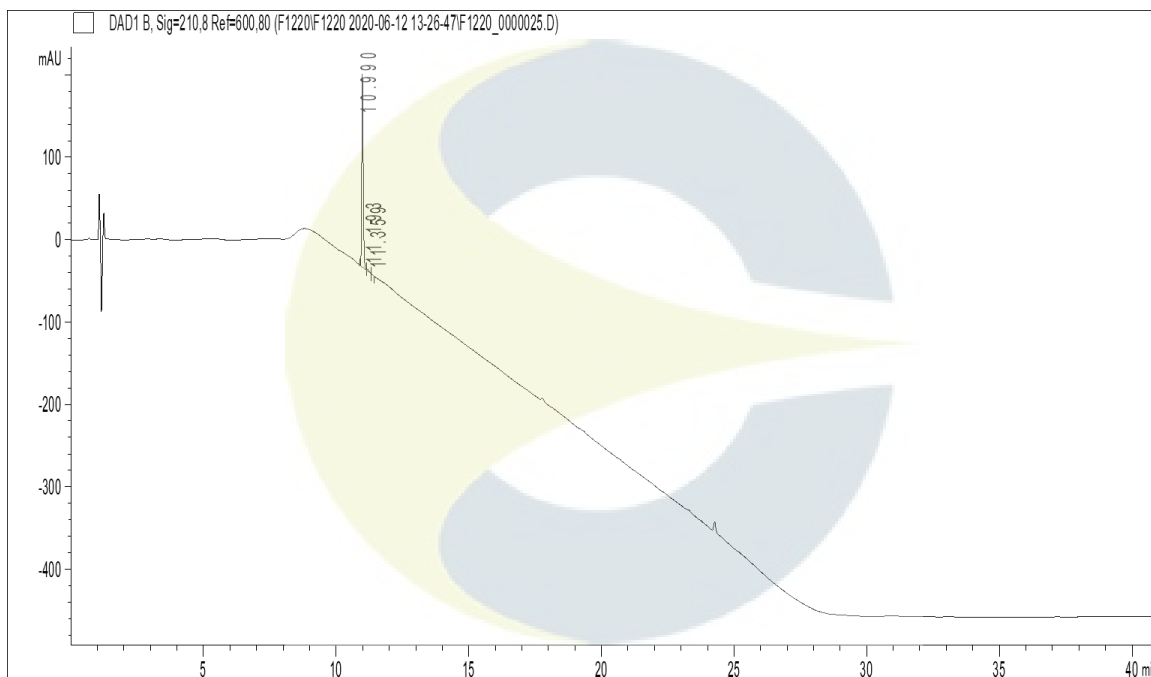
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ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF
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, then decreasing to 5% B over 1 minute.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.2 µL
INJECTION CONC.	0.53 mg/mL in Methanol
DETECTION	210 ± 4 nm

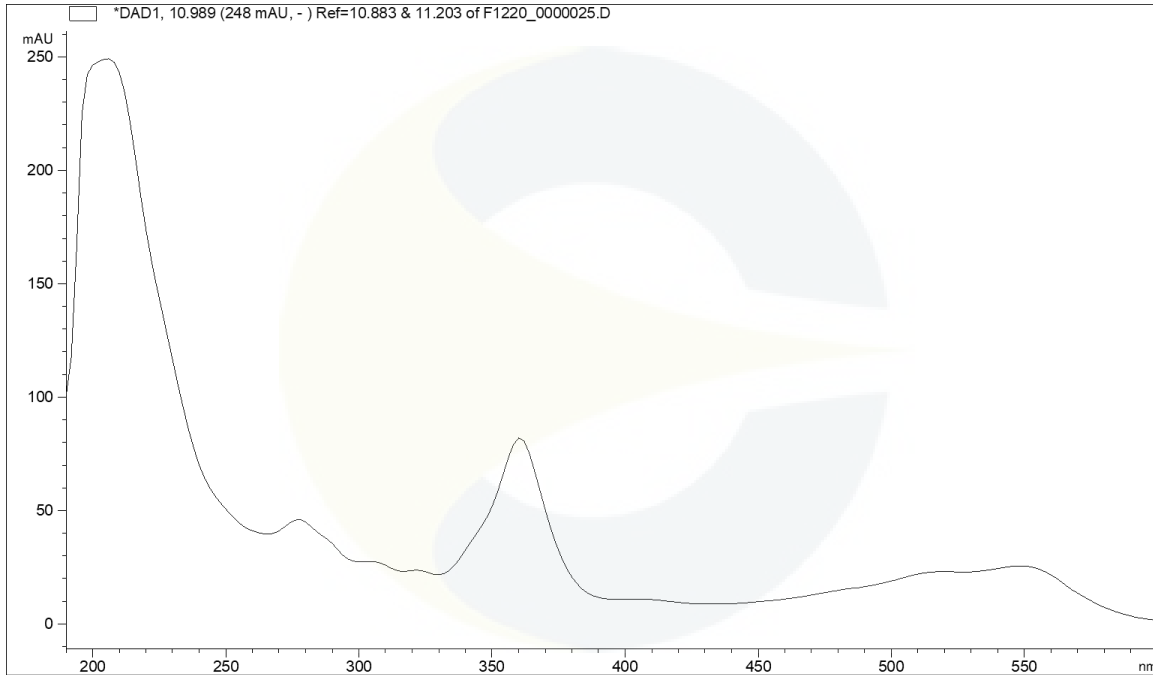
HPLC CHROMATOGRAM OF VITAMIN B12 (CDXP-20-00189)



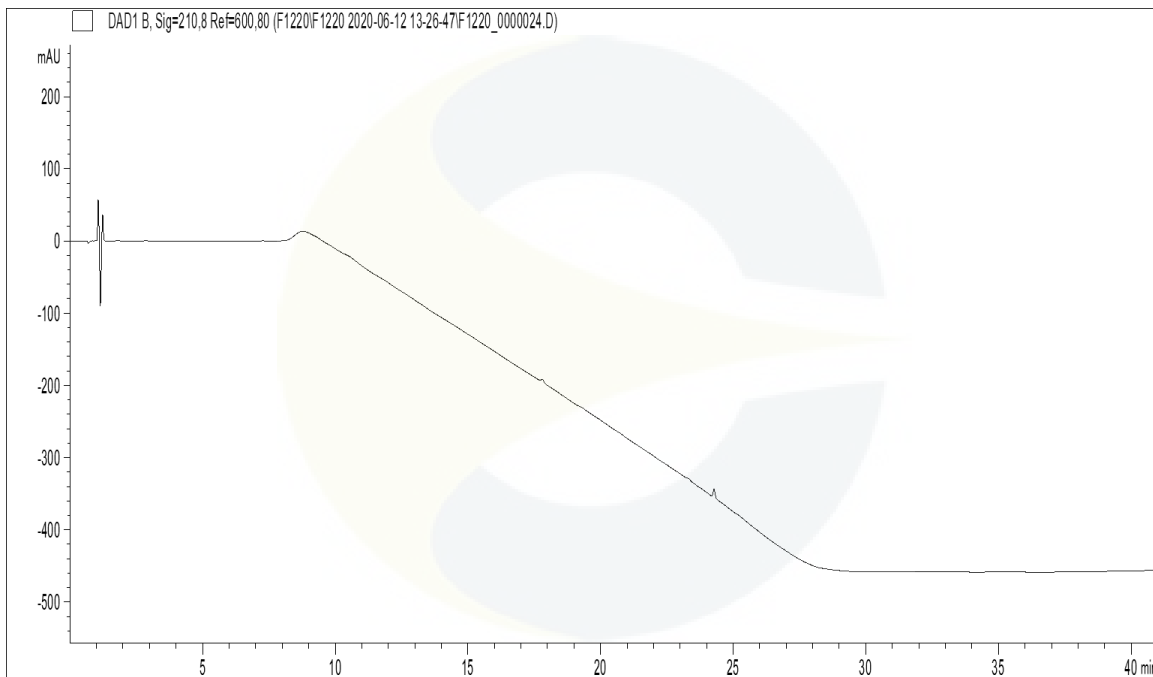
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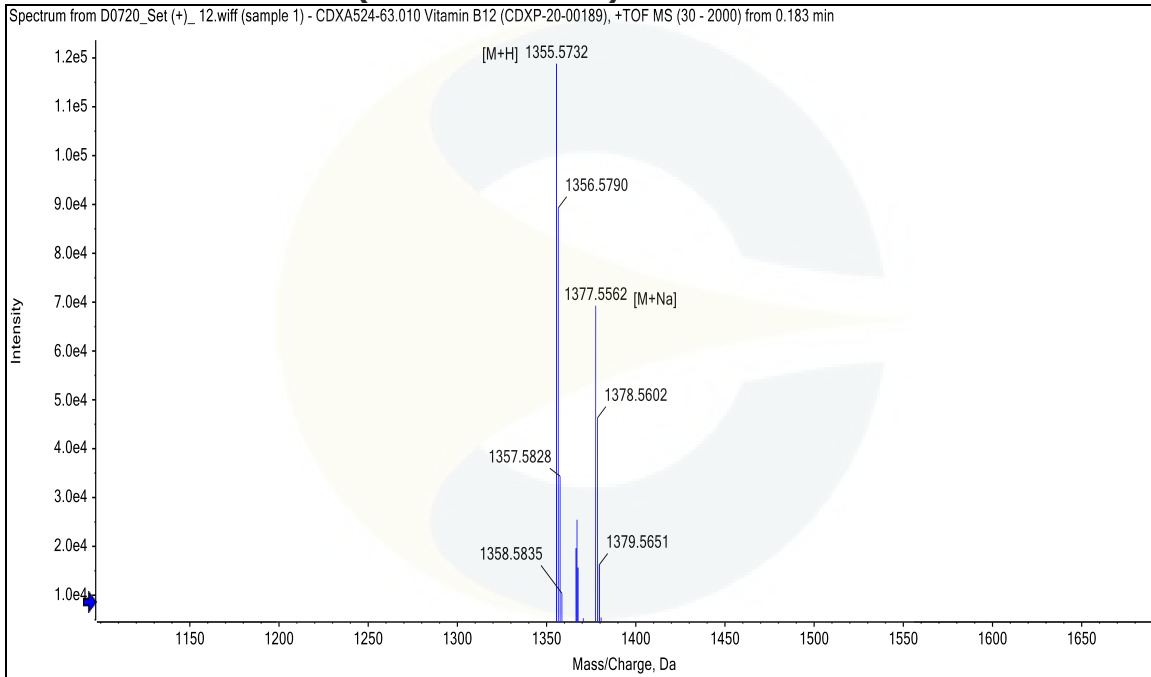
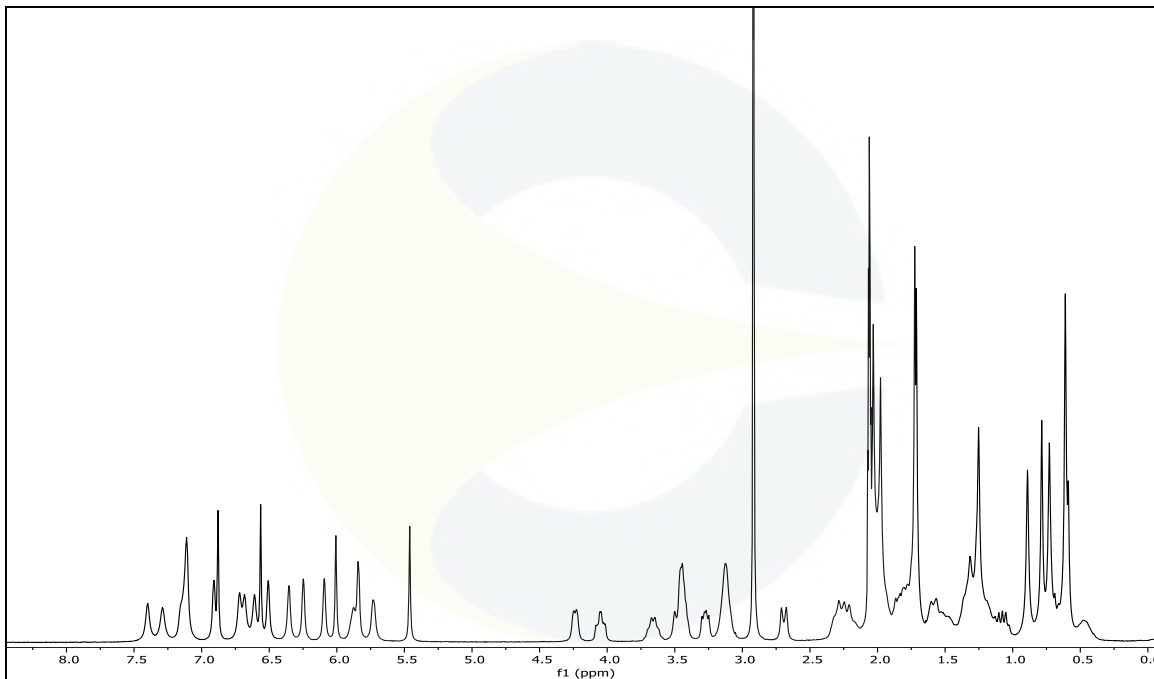
UV SPECTRUM AT RT 11.0 MINUTES



HPLC CHROMATOGRAM OF DILUENT BLANK

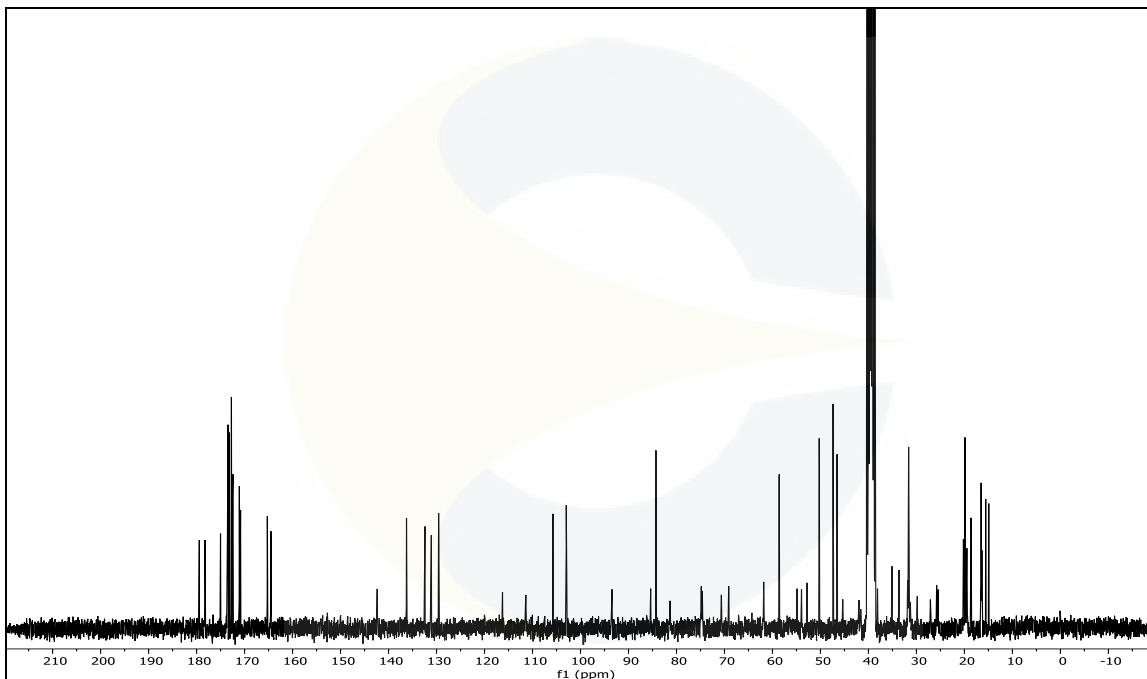


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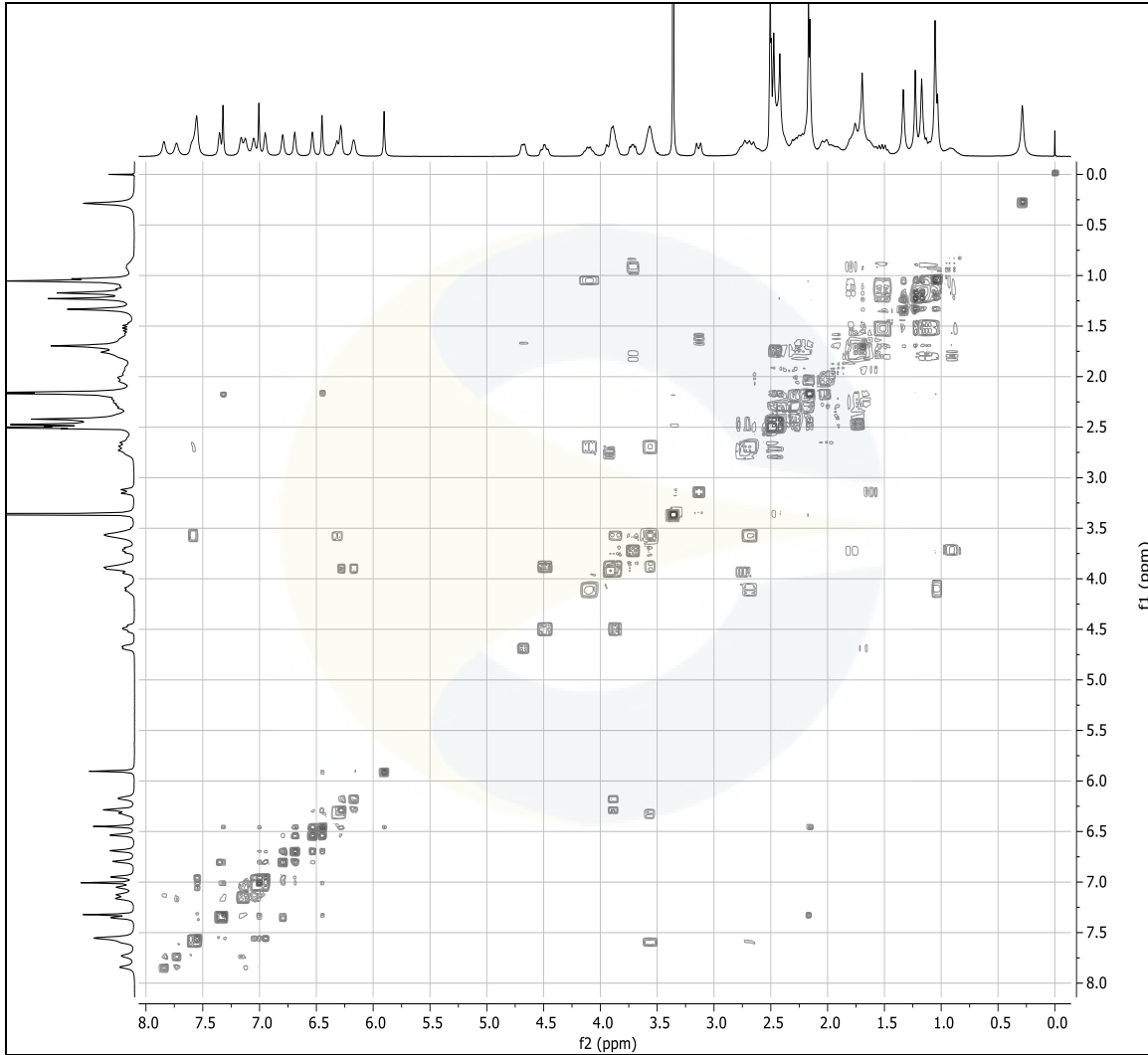
MASS SPECTRUM OF VITAMIN B12 (CDXP-20-00189)

¹H-NMR SPECTRUM OF VITAMIN B12 (CDXP-20-00189) IN DMSO-d₆


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¹³C-NMR SPECTRUM VITAMIN B12 (CDXP-20-00189) IN DMSO-d₆



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COSY-NMR SPECTRUM OF VITAMIN B12 (CDXP-20-00189) IN DMSO-d₆

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	06/22/2020	New report

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