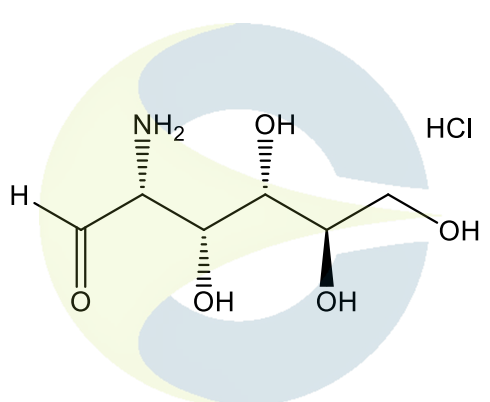


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PRODUCT NAME	D-(+)-Glucosamine HCl	<div style="text-align: center;"> Structure  </div>
PART NUMBER	00007256	
STANDARD TYPE	Primary (P)	
LOT NUMBER	00007256-IRI	
REPORT NUMBER	CDXA-RSS-5781-02	
SAMPLE NUMBER	CDXA-13-5907	
DATE OF SAMPLE	08/29/2013	
DATE OF RE-EVALUATION	05/08/2018 (1 st); 04/11/2022 (2 nd)	
DATE OF REPORT	05/13/2022	

CHEMICAL NAMES	2-Amino-2-deoxy-D-glucose hydrochloride; Chitosamine hydrochloride; Cosamin
CHEMICAL FORMULA	C ₆ H ₁₃ NO ₅ • HCl
MOLECULAR WEIGHT (MW)	215.63
CHEMICAL FAMILY	Sugars
CAS NUMBER	[66-84-2]
EC#(EINECS)	200-638-1
RTECS	LZ6665000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	99.2%
HPLC	CDXA-CPM-100-00	≥ 90%	99.2%
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-6.0-0000115	NA	ND
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

ADJUSTED PURITY: 99.2% IS BASED ON (100 - 0.0 SOLVENTS - 0.0 WATER) X 99.2% HPLC

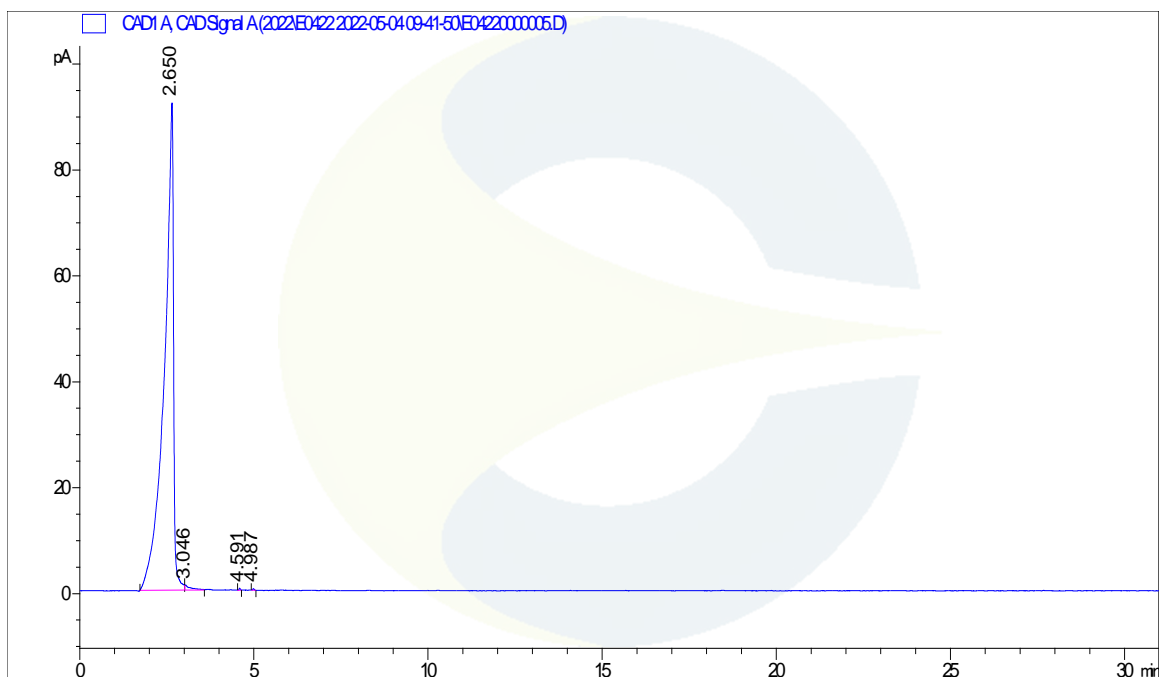
STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	04/2027 under the above conditions.

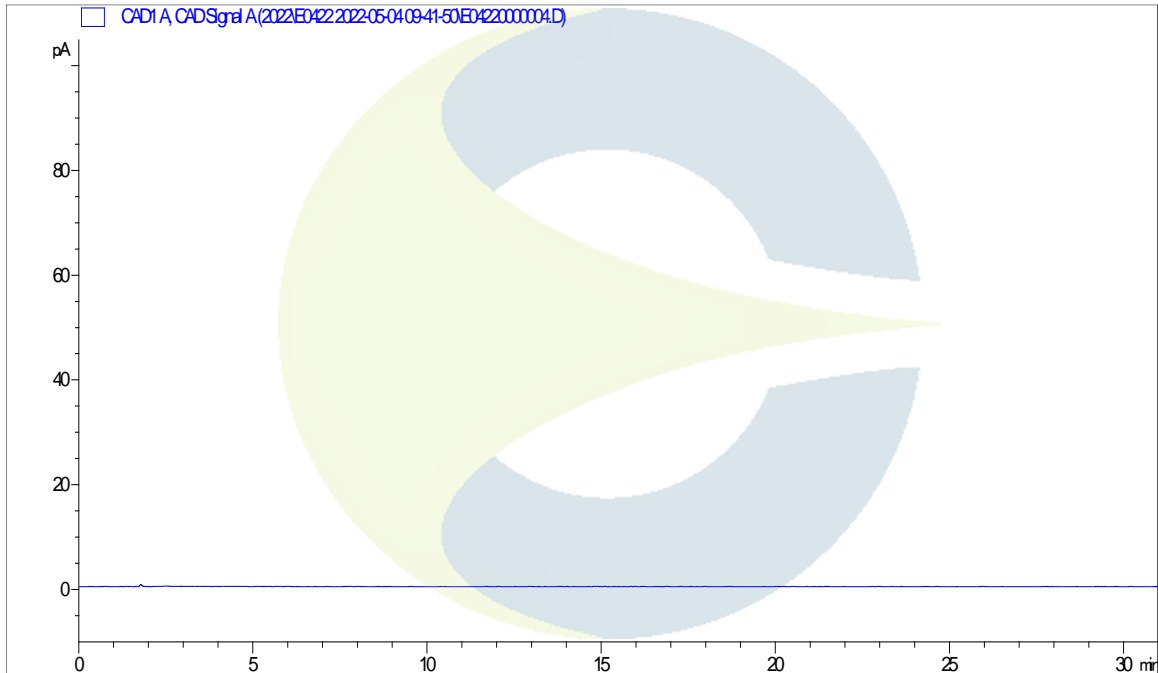
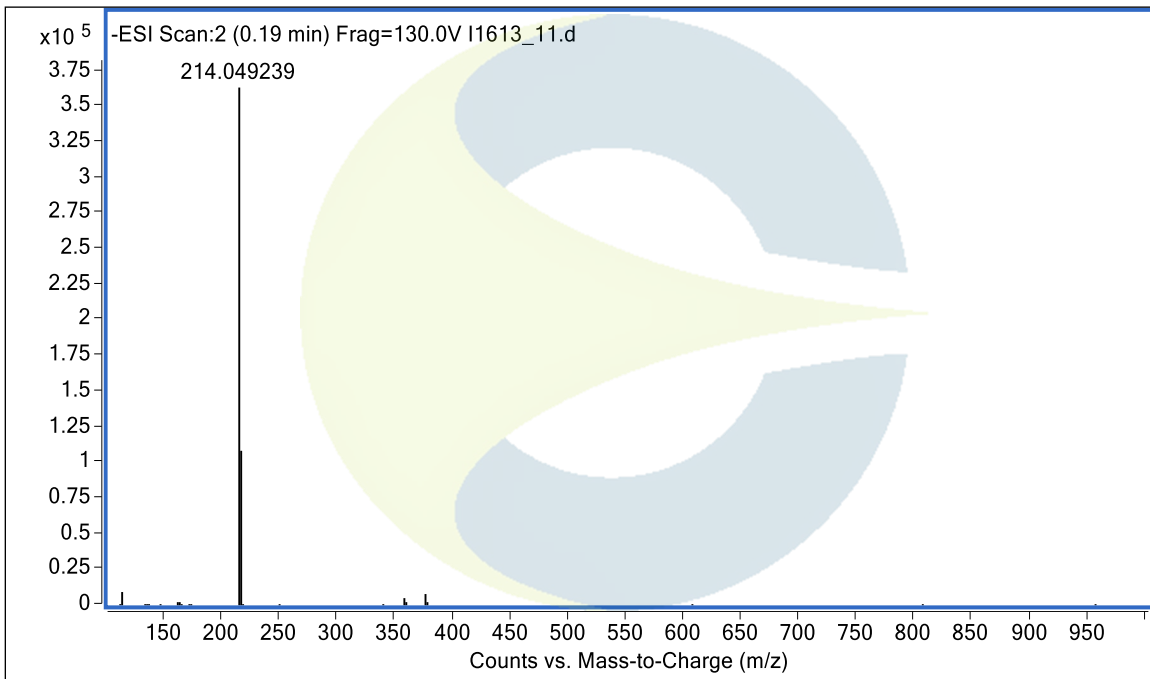
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ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD) CONNECTED TO DIONEX CORONA VEO CHARGED AEROSOL DETECTOR (CAD); AGILENT 6510 QTOF
COLUMN	Shodex Asahipak NH ₂ P-50 4E, 250 x 4.6 mm, 5 µm particle size
MOBILE PHASE	A - Ultrapure water; Isocratic for 31 minutes
COLUMN TEMP.	60 °C
FLOW RATE	0.8 mL/minute
INJECTION VOL.	10.0 µL
INJECTION CONC.	7.0 mg/mL in Water
DETECTION	CAD

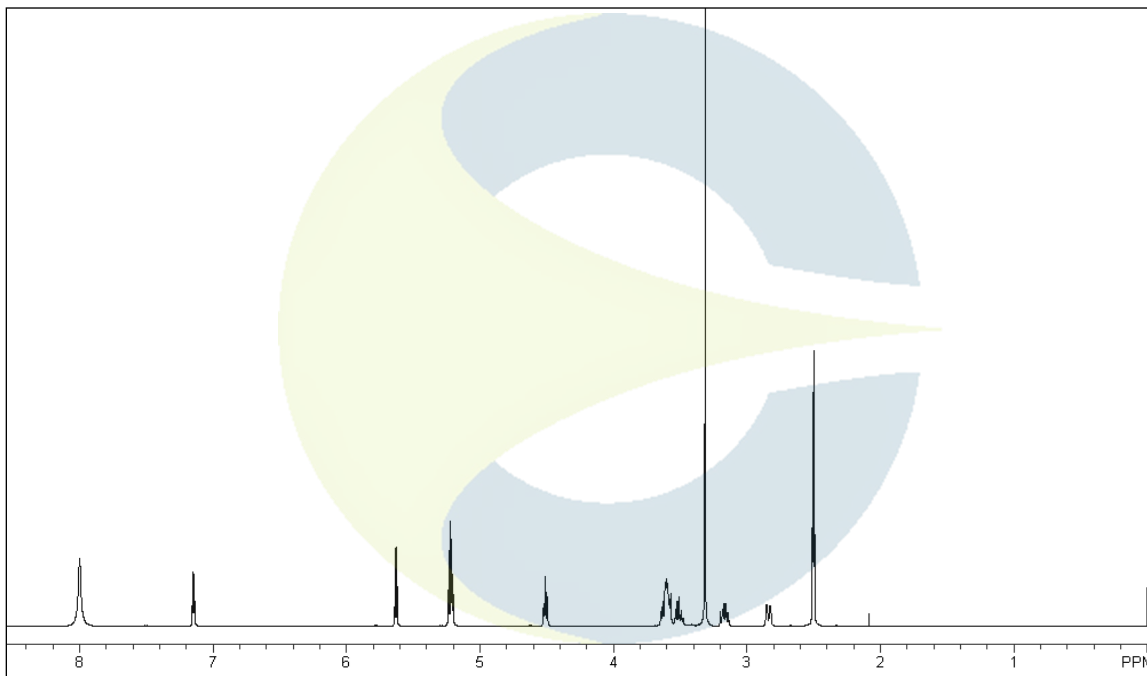
HPLC CHROMATOGRAM OF D-(+)-GLUCOSAMINE HCL (CDXA-13-5907)


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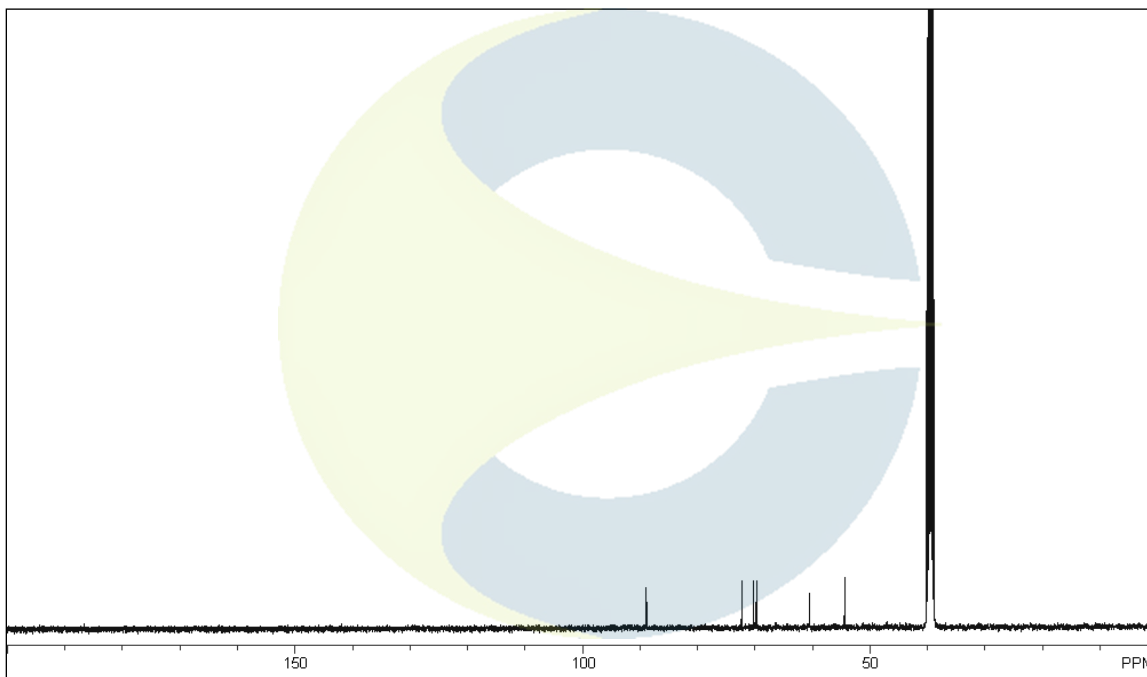
HPLC CHROMATOGRAM OF DILUENT BLANK**MASS SPECTRUM OF D-(+)-GLUCOSAMINE HCL (CDXA-13-5907)**

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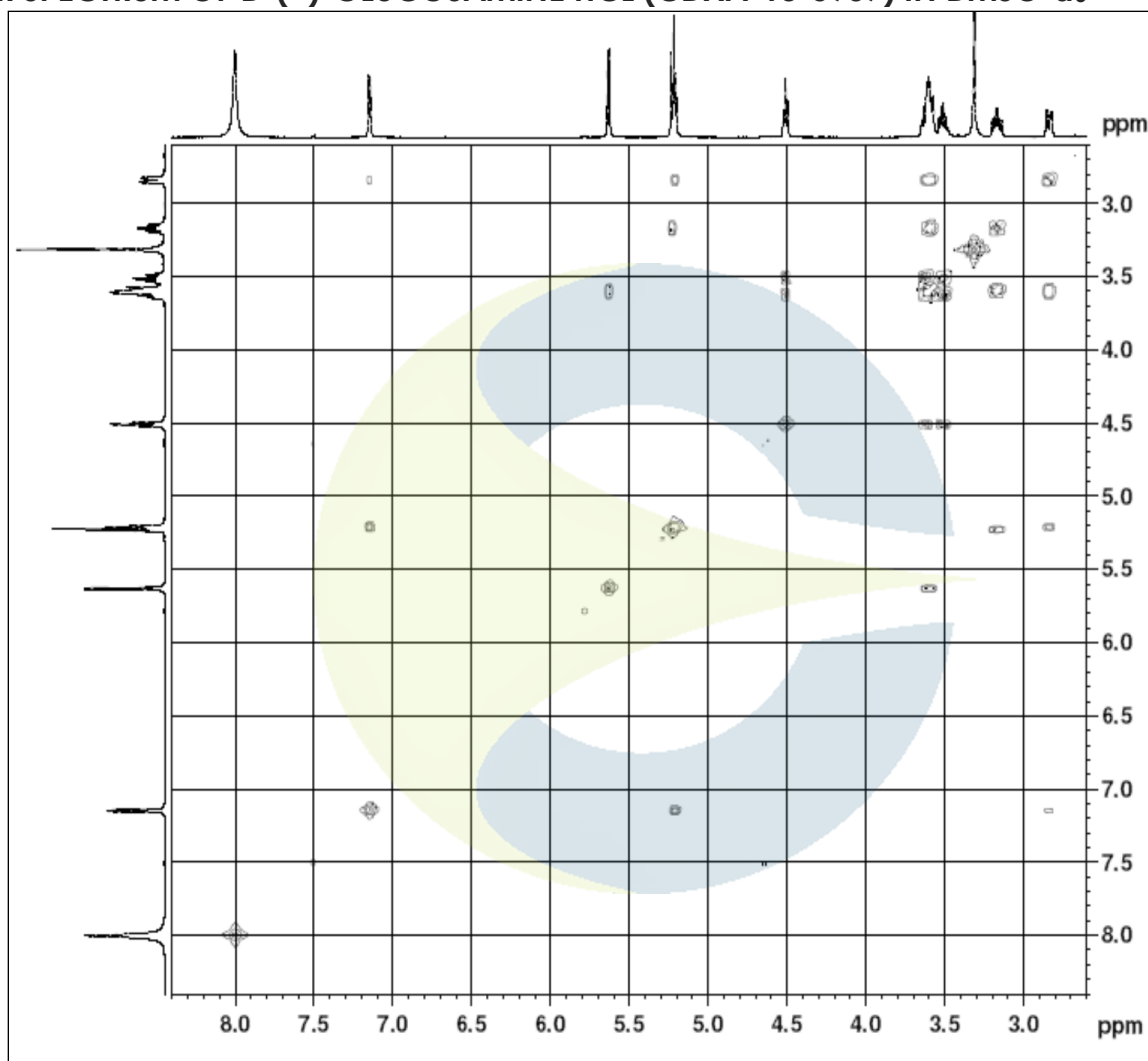
¹H-NMR SPECTRUM OF D-(+)-GLUCOSAMINE HCL (CDXA-13-5907) IN DMSO-d₆



¹³C-NMR SPECTRUM OF D-(+)-GLUCOSAMINE HCL (CDXA-13-5907) IN DMSO-d₆



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COSY-NMR SPECTRUM OF D-(+)-GLUCOSAMINE HCL (CDXA-13-5907) IN DMSO-*d*₆

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	10/14/2013	New report
01	06/05/2018	Passed re-evaluation by HPLC and KF. Updated chemical structure format, expiration date, analytical results, analytical conditions, and chromatograms.
02	05/13/2022	Passed re-evaluation by HPLC and KF. Updated expiration date, analytical conditions, results, and chromatograms.

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