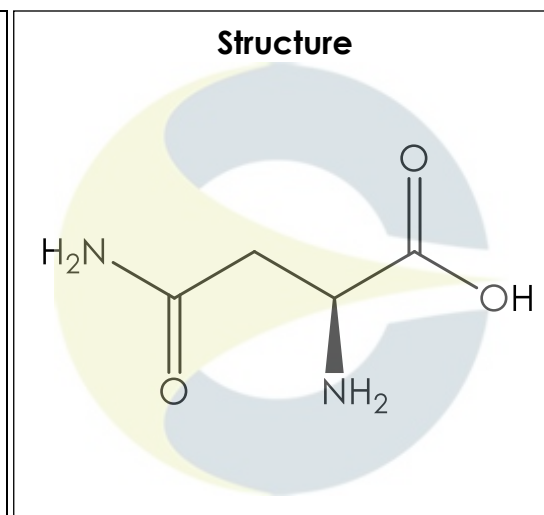


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PRODUCT NAME	L-Asparagine
PART NUMBER	00011043
STANDARD TYPE	Primary (P)
LOT NUMBER	00011043-403
REPORT NUMBER	CDXA-RSS-3149-03
SAMPLE NUMBER	CDXA-08-2489
DATE OF SAMPLE	10/20/2008
DATE OF RE-EVALUATION	01/21/2014 (1 st); 11/01/2018 (2 nd); 10/04/2022 (3 rd)
DATE OF REPORT	10/18/2022



CHEMICAL NAMES	L-2,4-Diamino-4-oxobutanoic acid; (-)-Asparagine; (S)-2,4-Diamino-4-oxobutanoic acid; L-Aspartamine; L-β-Asparagine; Agedoite; Altheine; Asparagine acid; Asparamide; Aspartamic acid; Aspartic acid β-amide; Crystal VI
CHEMICAL FORMULA	C ₄ H ₈ N ₂ O ₃
MOLECULAR WEIGHT (MW)	132.12
CHEMICAL FAMILY	Amino acids
CAS NUMBER	[70-47-3]
EC#(EINECS)	200-735-9
RTECS	CI9012000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	96.7%
HPLC	0.700.10.2.METH46	≥ 90%	96.7%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	Direct Infusion, ESI (-)	Conforms	Conforms
Residual Solvent	99.1-CD-2.0-000115	NA	ND
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

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ADJUSTED PURITY: 96.7% IS BASED ON (100 - 0.0 SOLVENTS - 0.0 WATER) X 96.7% HPLC

STORAGE CONDITIONS

STORAGE Room Temperature in a dry place.
EXPIRATION DATE 10/2027 under the above conditions.

ANALYTICAL CONDITIONS

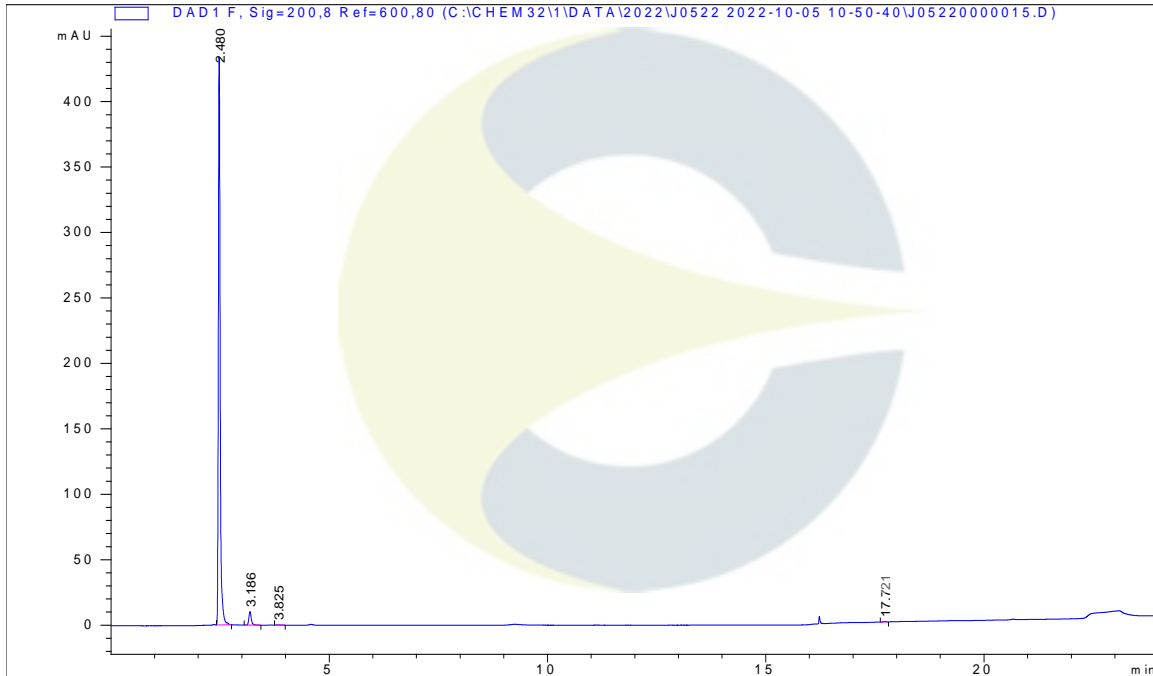
INSTRUMENT AGILENT 1260 HPLC UV-VIS (DAD); FINNIGAN LCQ-DECA
COLUMN Phenomenex Synergi Hydro-RP 80Å 250 x 4.6mm, 4µm particle size
MOBILE PHASE A - 10 mM Monobasic potassium phosphate in UltraPure water, pH 2.9
B - Acetonitrile;
Isocratic 5% B for 3 minutes, then increasing to 65% B over 25 minutes. Hold at 65% B for 2 minutes. Reduce to 5% B over 1 minute and re-equilibrate for 9 minutes.
COLUMN TEMP. 22 °C
FLOW RATE 1.0 mL/minute
INJECTION VOL. 1.0 µL
INJECTION CONC. 2.3 mg/mL in Ultrapure water
DETECTION 200 ± 4 nm

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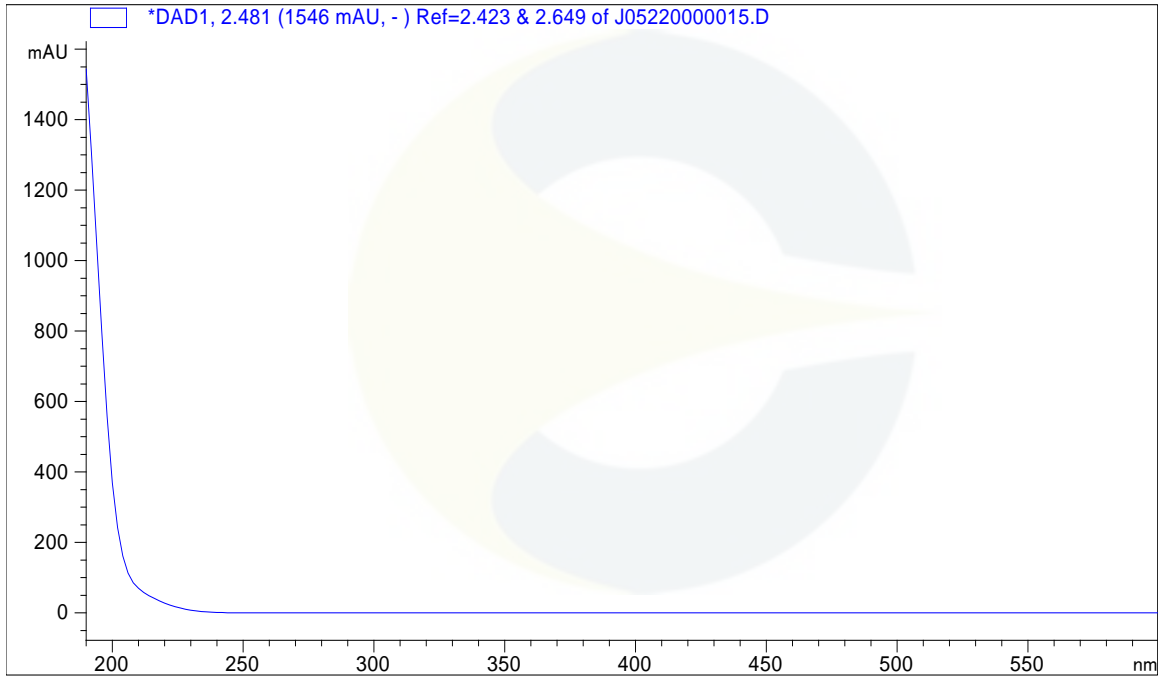
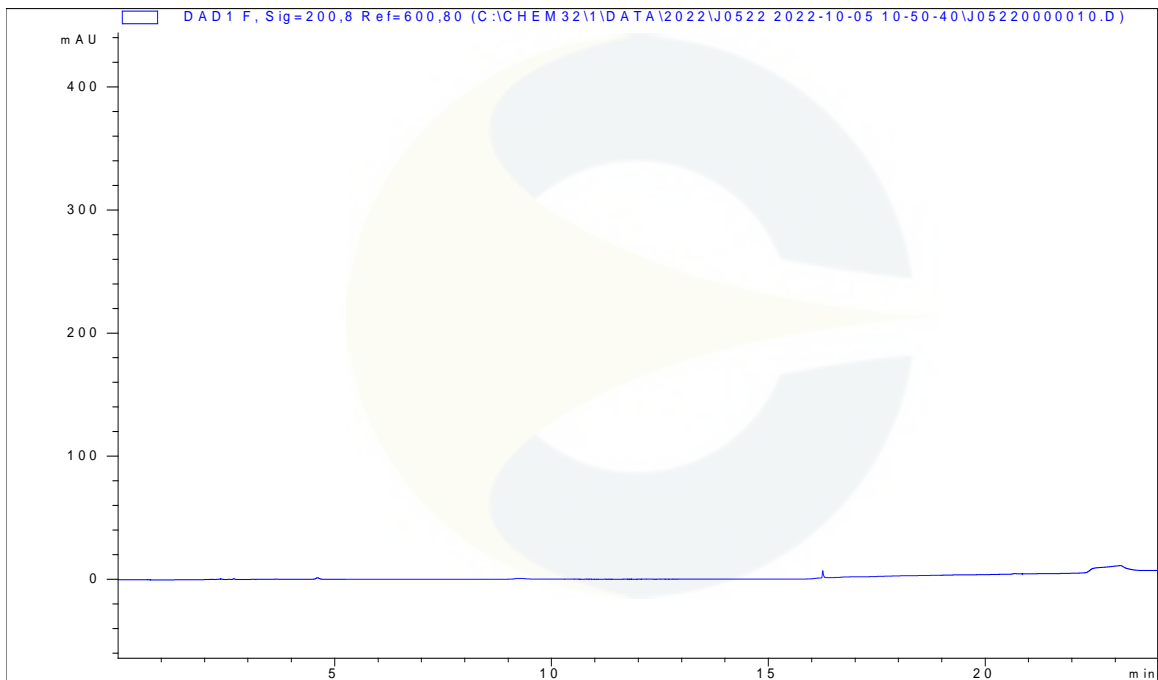
HPLC CHROMATOGRAM OF L-ASPARAGINE (CDXA-08-2489)



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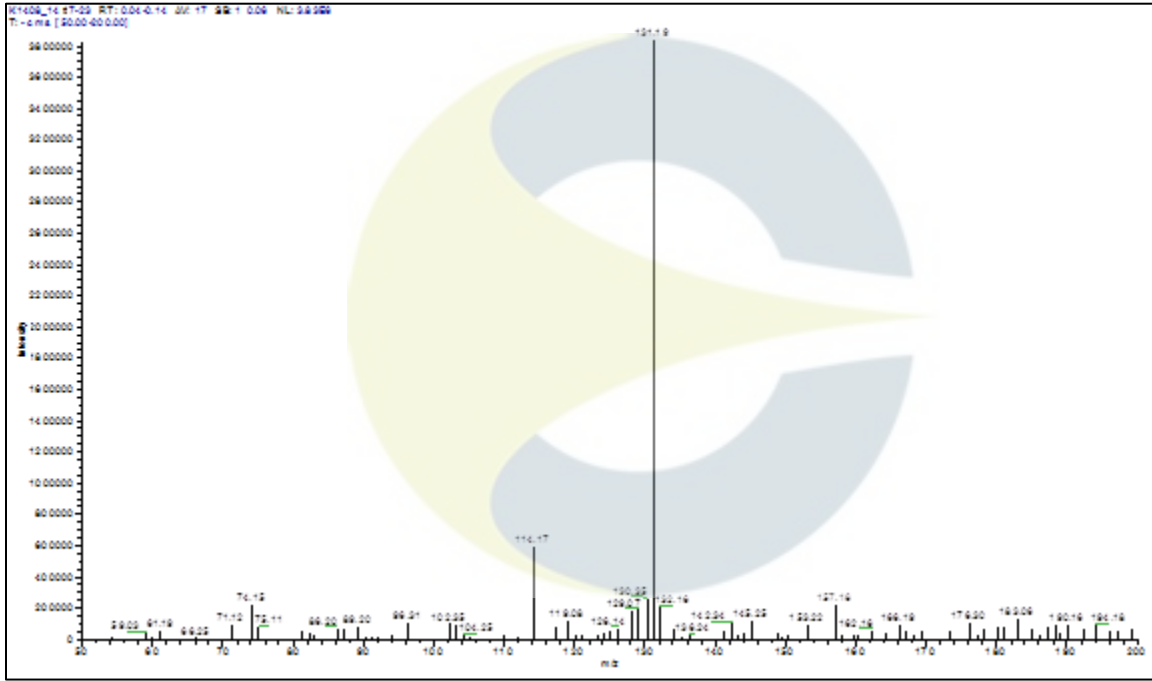
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UV SPECTRUM AT RT = 2.5 MINUTES

HPLC CHROMATOGRAM OF DILUENT BLANK


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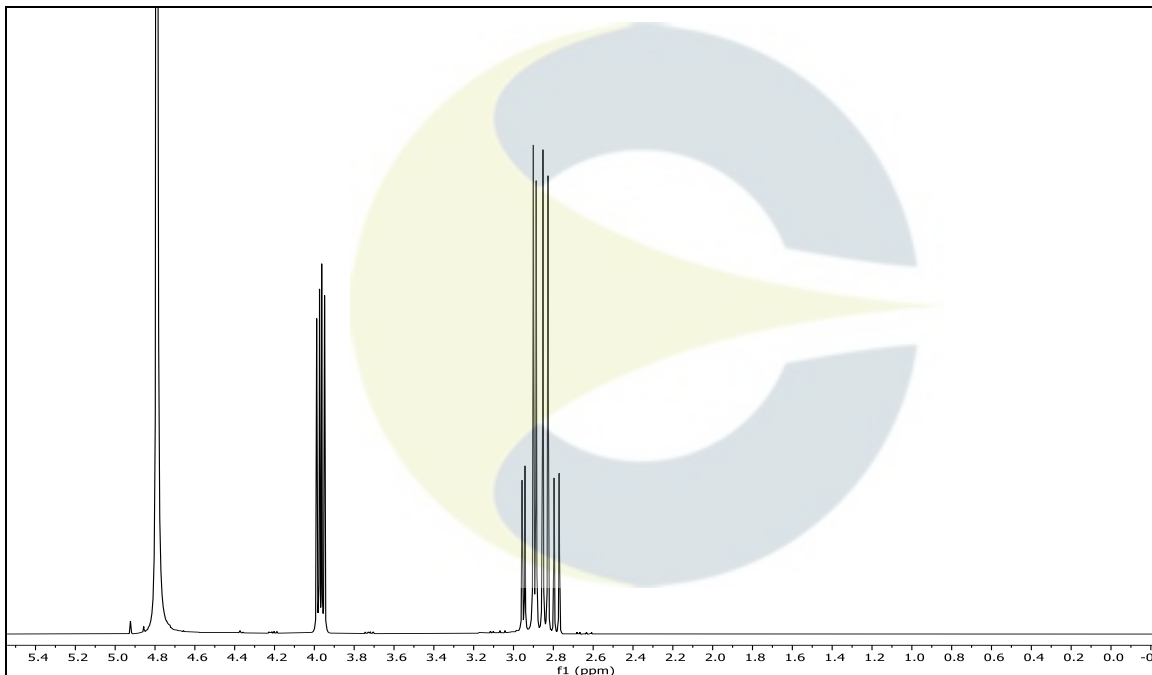
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MASS SPECTRUM OF L-ASPARAGINE (CDXA-08-2489)



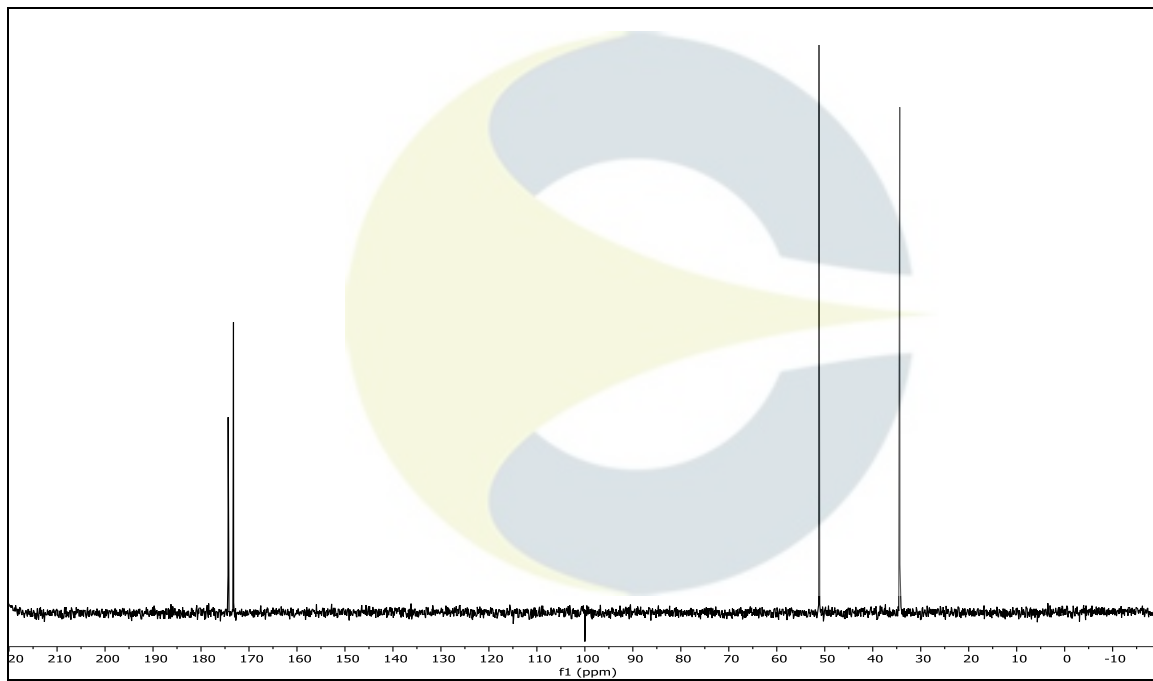
¹H-NMR SPECTRUM OF L-ASPARAGINE (CDXA-08-2489) IN D₂O



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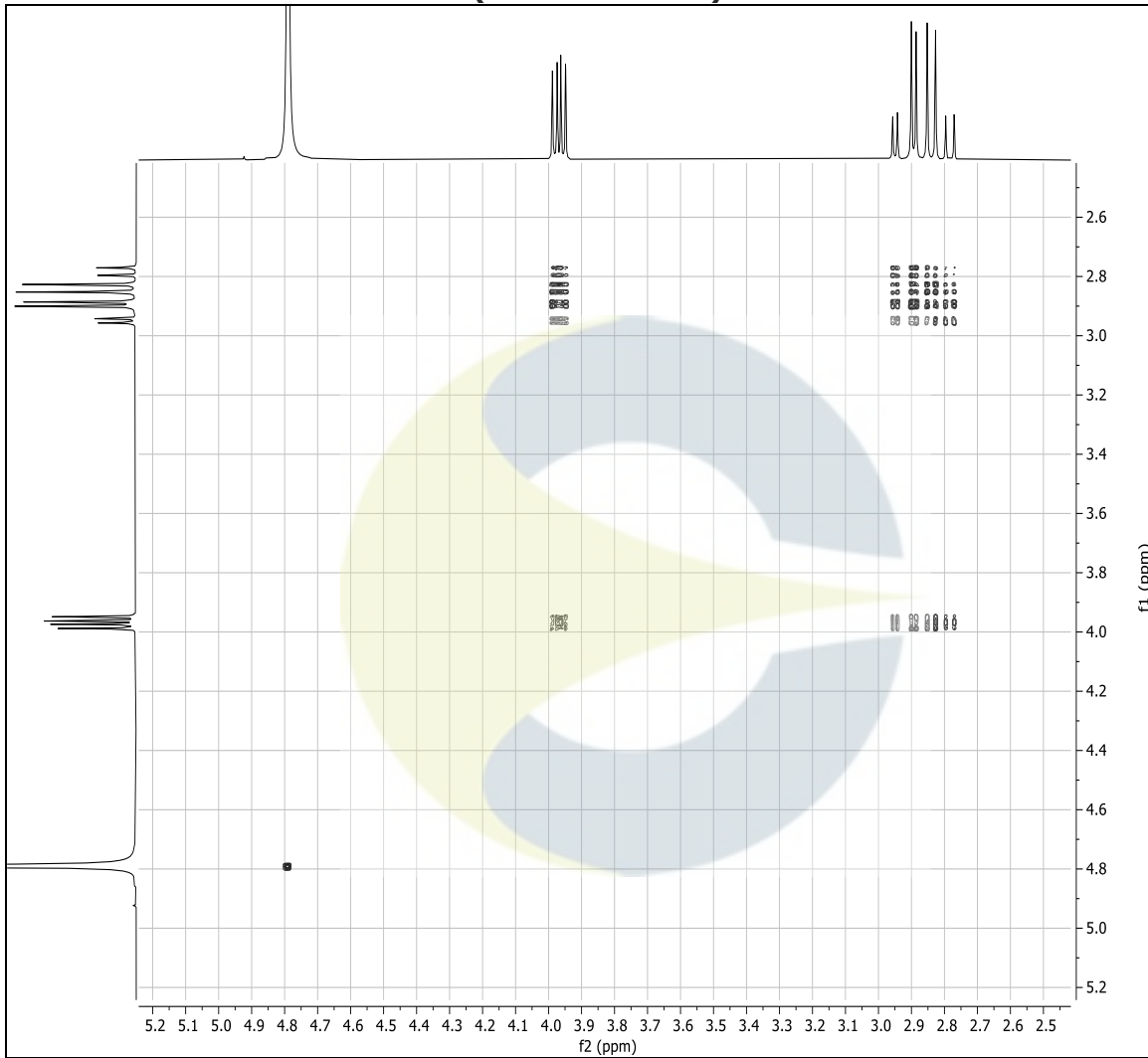
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¹³C-NMR SPECTRUM OF L-ASPARAGINE (CDXA-08-2489) IN D₂O

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COSY-NMR SPECTRUM OF L-ASPARAGINE (CDXA-08-2489) IN D₂O

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	12/02/2008	New report
01	01/30/2014	Material passed re-evaluation. Updated expiration date.
02	11/28/2018	Passed re-evaluation by HPLC and water content. Updated Results, Analytical Conditions, chromatograms, UV spectrum, and expiration date. Added RTECS. Removed Melting Point.
03	10/18/2022	Passed third re-evaluation by HPLC, KF, and NMR. Updated results, Analytical Conditions, methods, chromatograms, and expiration date.

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