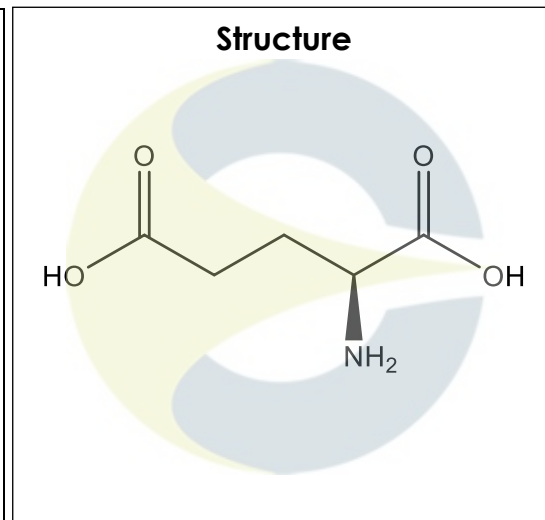


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PRODUCT NAME	L-Glutamic acid
PART NUMBER	00007307
STANDARD TYPE	Primary (P)
LOT NUMBER	00007307-230
REPORT NUMBER	CDXA-RSS-179-03
SAMPLE NUMBER	CDXA-04-0230
DATE OF SAMPLE	08/19/2004
DATE OF RE-EVALUATION	09/14/2009 (1 st); 03/31/2014 (2 nd); 10/31/2018 (3 rd); 09/06/2022 (4 th)
DATE OF REPORT	09/29/2022



CHEMICAL NAMES	L-α-Aminoglutaric acid; 1-Aminopropane-1,3-dicarboxylic acid; (S)-2-Aminopentanedioic acid; Aciglut; Glusate; Glutacid; Glutamic acid; Glutamicol; Glutamidex; Glutaminic acid; Glutaminol; Glutaton
CHEMICAL FORMULA	C ₅ H ₉ NO ₄
MOLECULAR WEIGHT (MW)	147.13
CHEMICAL FAMILY	Amino acids
CAS NUMBER	[56-86-0]
EC#(EINECS)	200-293-7
RTECS	LZ9700000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	99.2%
HPLC	0.700.10.2.METH46	≥ 90%	99.2%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	Direct Infusion, ESI (+)	Conforms	Conforms
Residual Solvent	CDXA-AM-001-00	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

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STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	09/2027 under the above conditions.

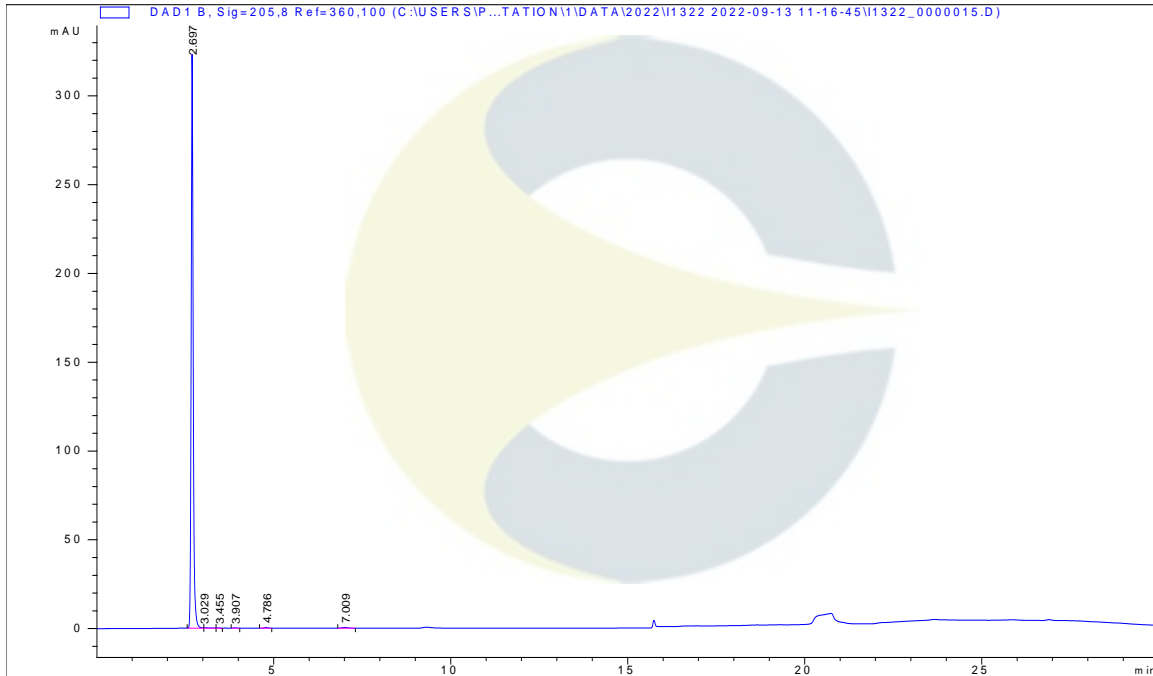
ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); FINNIGAN LCQ-DECA
COLUMN	Phenomenex Synergi Hydro-RP, 250 x 4.6 mm, 4 µm particle size
MOBILE PHASE	A – 10 mM Monobasic potassium phosphate (pH – 2.90), B - Acetonitrile; Isocratic 0% B for 10 minutes, increasing to 30% B over 10 minutes. Hold at 30% B for 4 minutes. Return to 0% B over 5 minutes.
COLUMN TEMP.	22 °C
FLOW RATE	1.0 mL/minute
INJECTION VOL.	10.0 µL
INJECTION CONC.	2.5 mg/mL in Water
DETECTION	205 ± 4 nm

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HPLC CHROMATOGRAM OF L-GLUTAMIC ACID (CDXA-04-0230)



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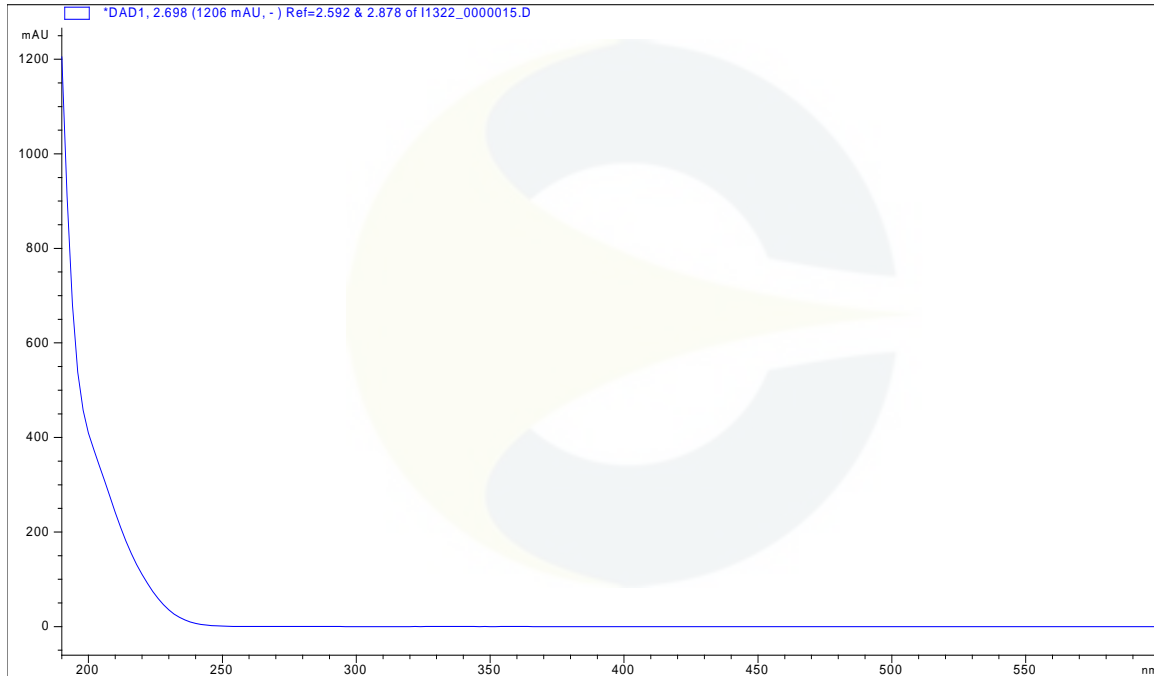
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Email: customerservice@lifetechindia.com Website: www.lifetechindia.com

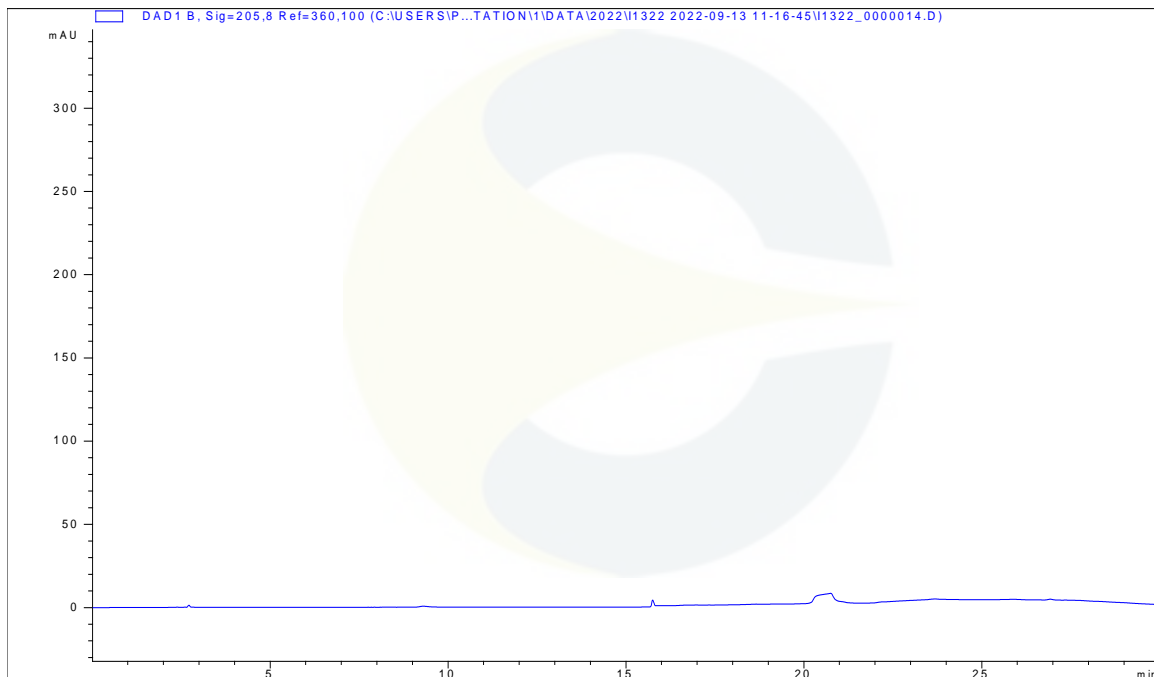
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UV SPECTRUM AT RT = 2.7 MINUTES



HPLC CHROMATOGRAM OF DILUENT BLANK



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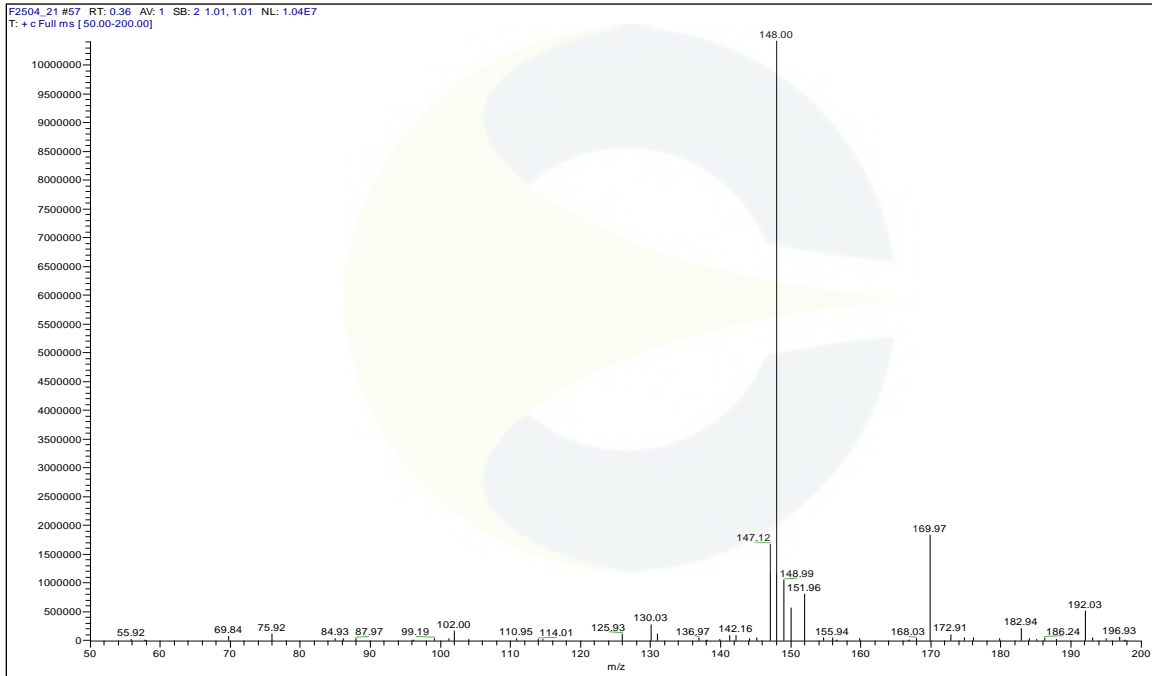
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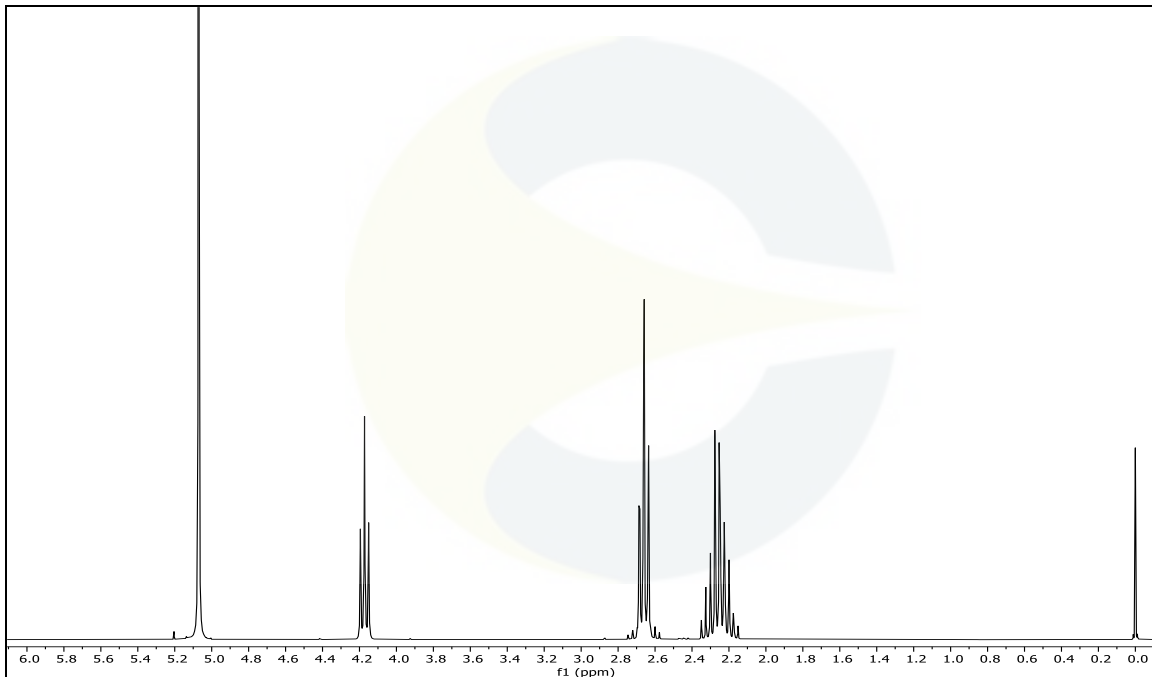
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MASS SPECTRUM OF L-GLUTAMIC ACID (CDXA-04-0230)



¹H-NMR SPECTRUM OF L-GLUTAMIC ACID (CDXA-04-0230) IN D₂O + TMSP + DCI

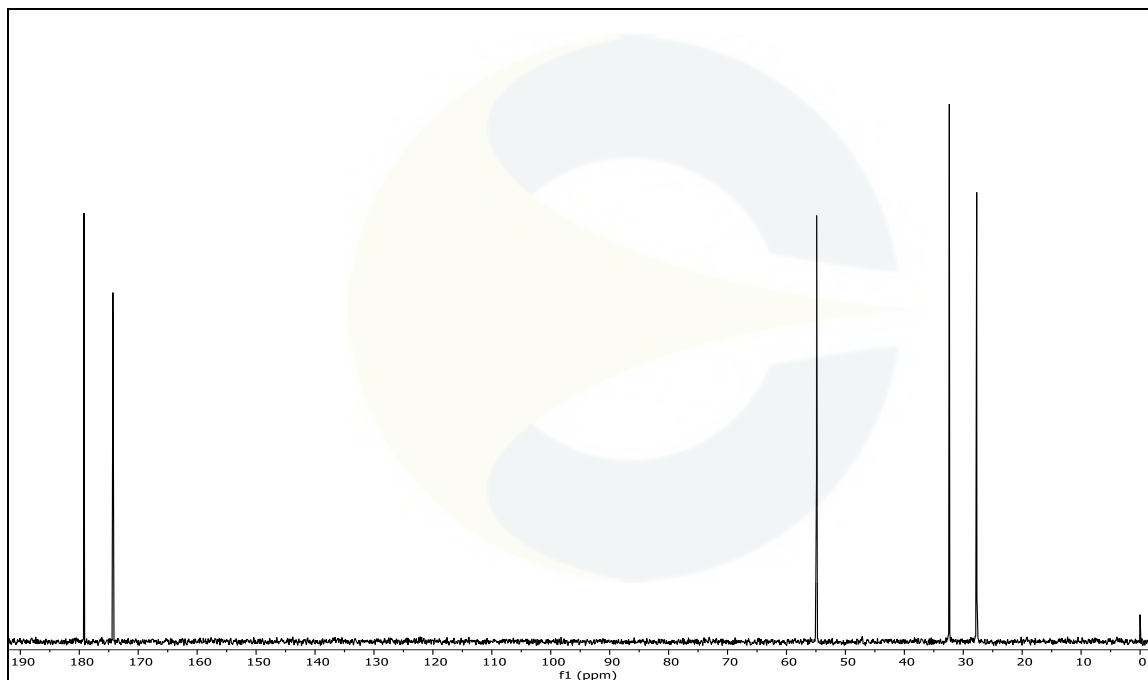


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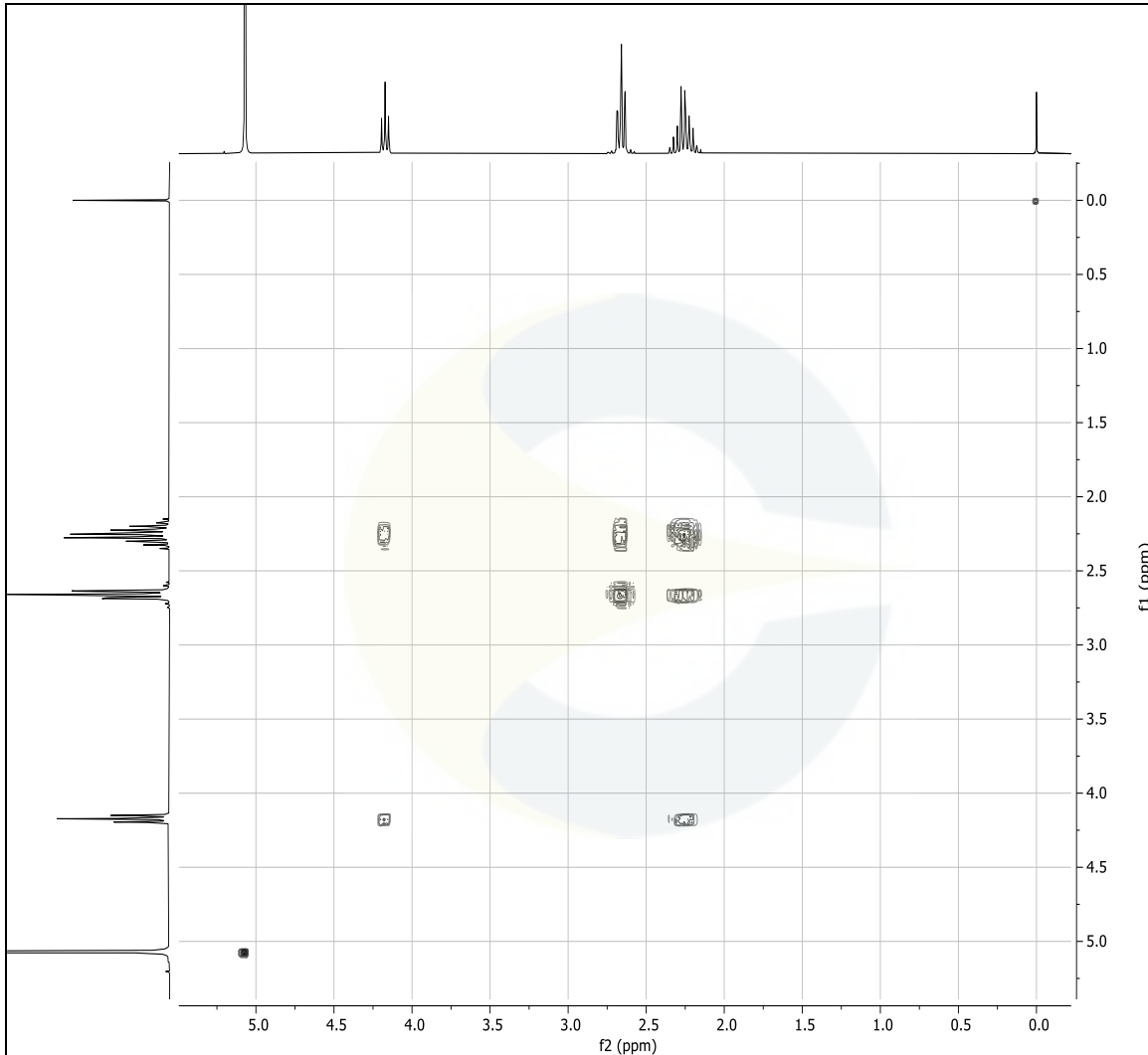
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 ^{13}C -NMR SPECTRUM OF L-GLUTAMIC ACID (CDXA-04-0230) IN D_2O + TMSP + DCI

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COSY-NMR SPECTRUM OF L-GLUTAMIC ACID (CDXA-04-0230) IN D₂O + TMSP + DCI

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	09/15/2009	New report and first re-evaluation
01	04/03/2014	Passed second re-evaluation; updated expiration date.
02	11/27/2018	Passed third re-evaluation by HPLC and KF. Updated analytical method, conditions, chromatograms, results, and expiration date. Removed melting point.
03	09/29/2022	Passed fourth re-evaluation by HPLC, KF. Updated expiration date, analytical results, analytical conditions, NMR spectra, and chromatograms.

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