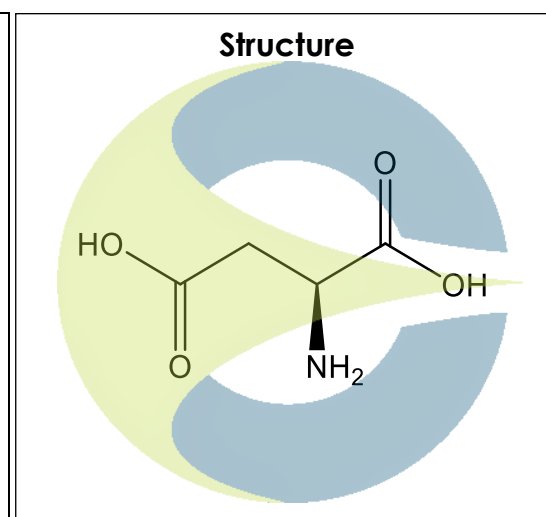


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<b>PRODUCT NAME</b>	L-Aspartic acid
<b>PART NUMBER</b>	00011053
<b>STANDARD TYPE</b>	Primary (P)
<b>LOT NUMBER</b>	00011053-6AE
<b>REPORT NUMBER</b>	CDXA-RSS-3148-04
<b>SAMPLE NUMBER</b>	CDXA-08-2488
<b>DATE OF SAMPLE</b>	10/20/2008
<b>DATE OF RE-EVALUATION</b>	08/22/2013 (1 <sup>st</sup> ); 07/23/2018 (2 <sup>nd</sup> ); 06/21/2022 (3 <sup>rd</sup> )
<b>DATE OF REPORT</b>	07/21/2022



<b>CHEMICAL NAMES</b>	(S)-Aspartic acid; (S)-Aminobutanedioic acid; L-Aminosuccinic acid; Asparagic acid; Asparaginic acid; Aspartic acid; H-Asp-OH
<b>CHEMICAL FORMULA</b>	C <sub>4</sub> H <sub>7</sub> NO <sub>4</sub>
<b>MOLECULAR WEIGHT (MW)</b>	133.10
<b>CHEMICAL FAMILY</b>	Amino acids
<b>CAS NUMBER</b>	[56-84-8]
<b>EC#(EINECS)</b>	200-291-6
<b>RTECS</b>	CI9098500

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	96.2%
HPLC	0.700.10.2.METH46	≥ 90%	96.2%
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

ADJUSTED PURITY: 96.2% IS BASED ON (100 - 0.0 SOLVENTS - 0.0 WATER) X 96.2% HPLC

**STORAGE CONDITIONS**
**STORAGE** Room Temperature in a dry place.

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**EXPIRATION DATE** 06/2027 under the above conditions.

### ANALYTICAL CONDITIONS

**INSTRUMENT** AGILENT 1260 HPLC UV-VIS (DAD); FINNIGAN LCQ-DECA

**COLUMN** Phenomenex Synergi Hydro-RP 80A 250 x 4.6 mm, 4 μm particle size

**MOBILE PHASE** A – 10mM Potassium Phosphate monobasic pH 2.89, B - Acetonitrile; 0%B for 10 minutes, then increasing to 30% B over 10 minutes. Hold at 30% B for 4 minutes, then decreasing to 0% B over 5 minutes.

**COLUMN TEMP.** 22 °C

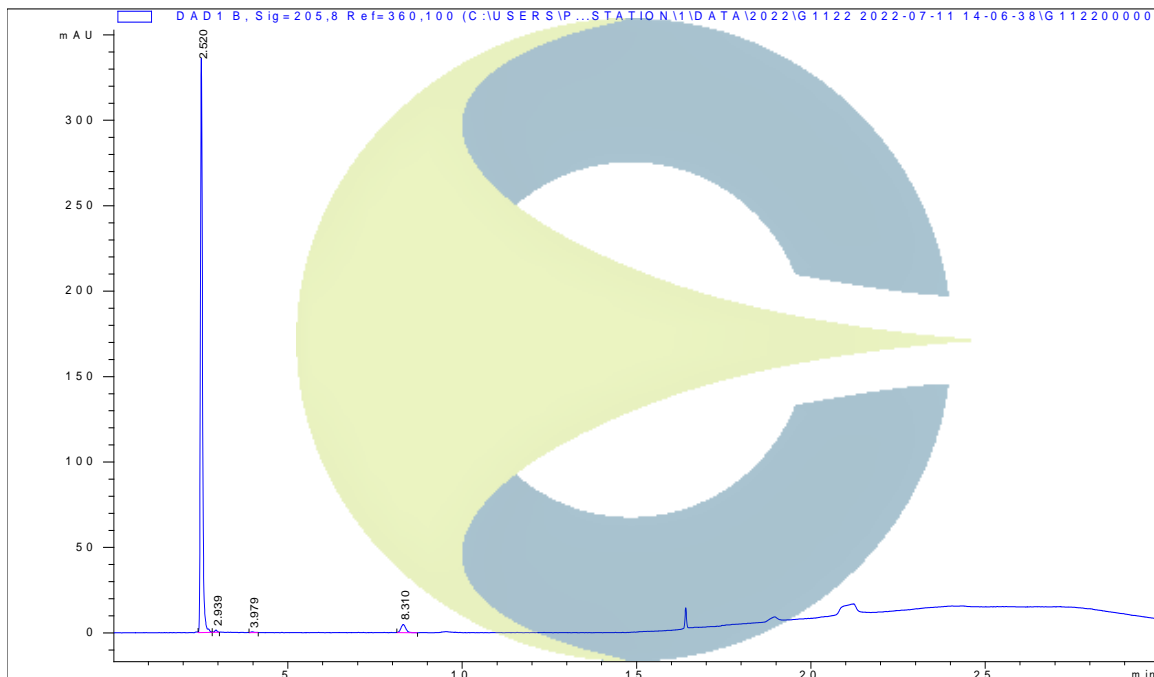
**FLOW RATE** 1.0 mL/minute

**INJECTION VOL.** 10.0 μL

**INJECTION CONC.** 2.3 mg/mL in Water

**DETECTION** 205 ± 4 nm

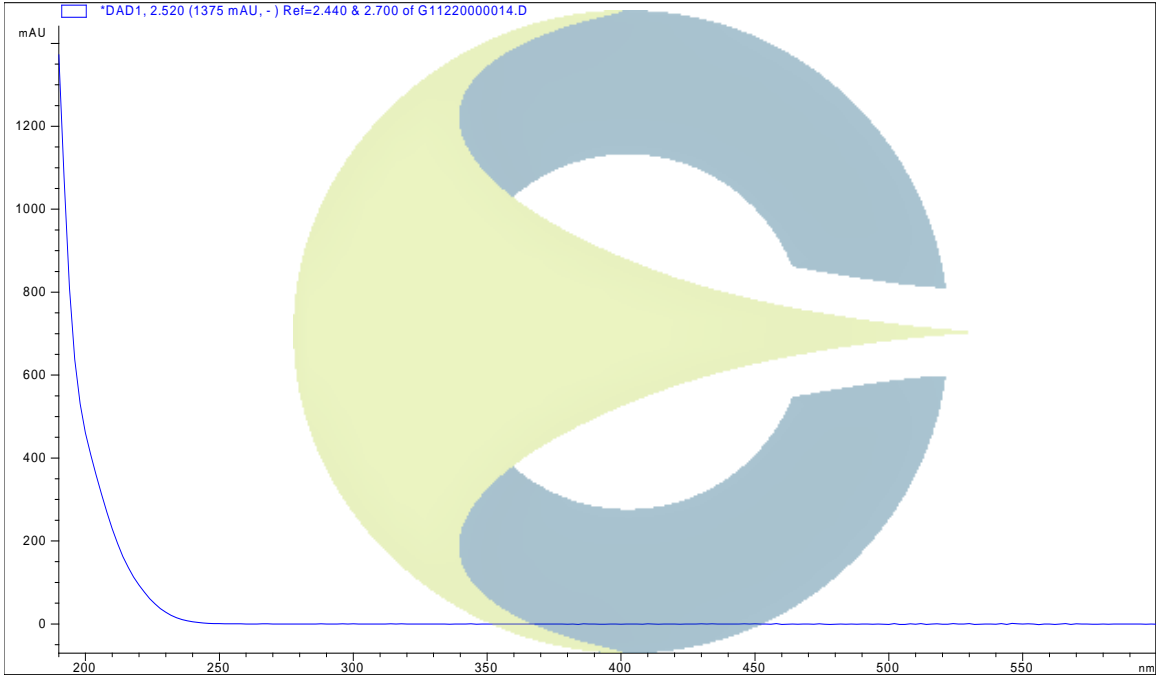
### HPLC CHROMATOGRAM OF L-ASPARTIC ACID (CDXA-08-2488)



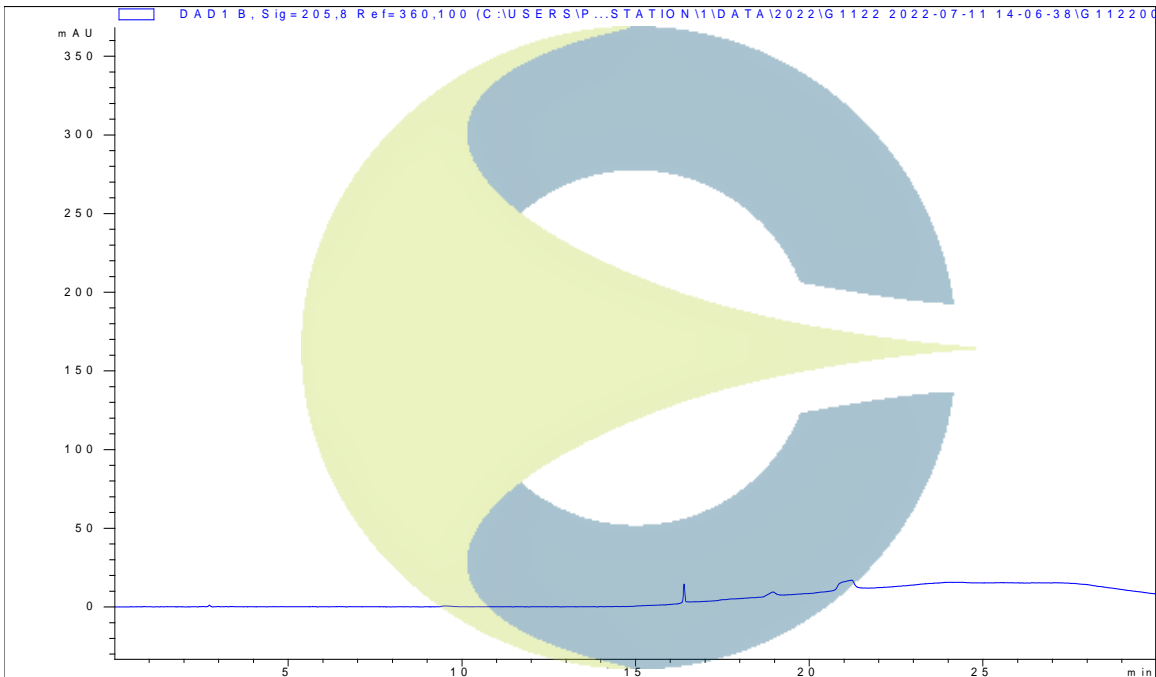
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### UV SPECTRUM AT RT = 2.5 MINUTES



### HPLC CHROMATOGRAM OF DILUENT BLANK

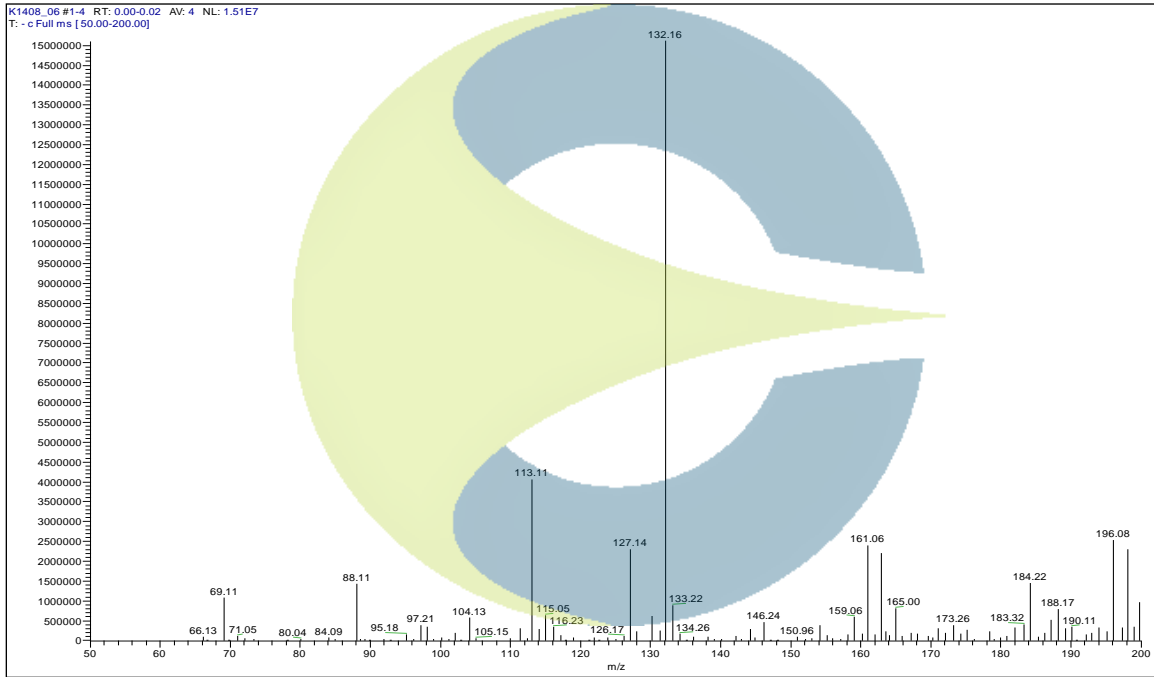


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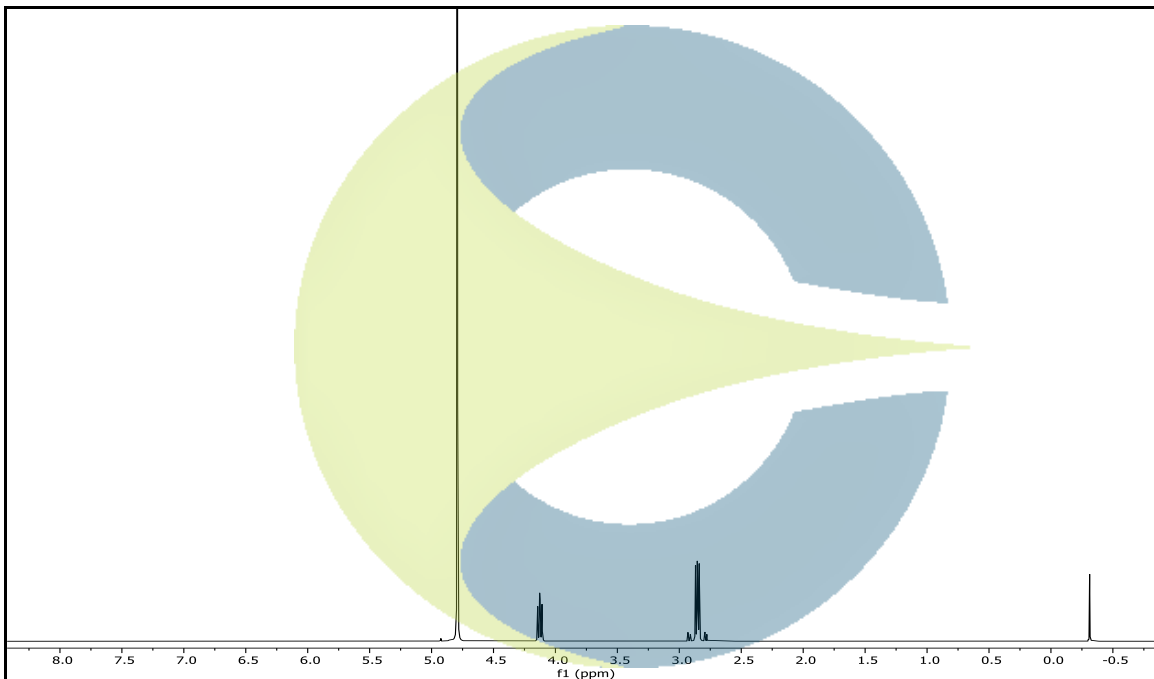
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India Contact:  
 Life Technologies (India) Pvt. Ltd.  
 306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
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**MASS SPECTRUM OF L-ASPARTIC ACID (CDXA-08-2488)**

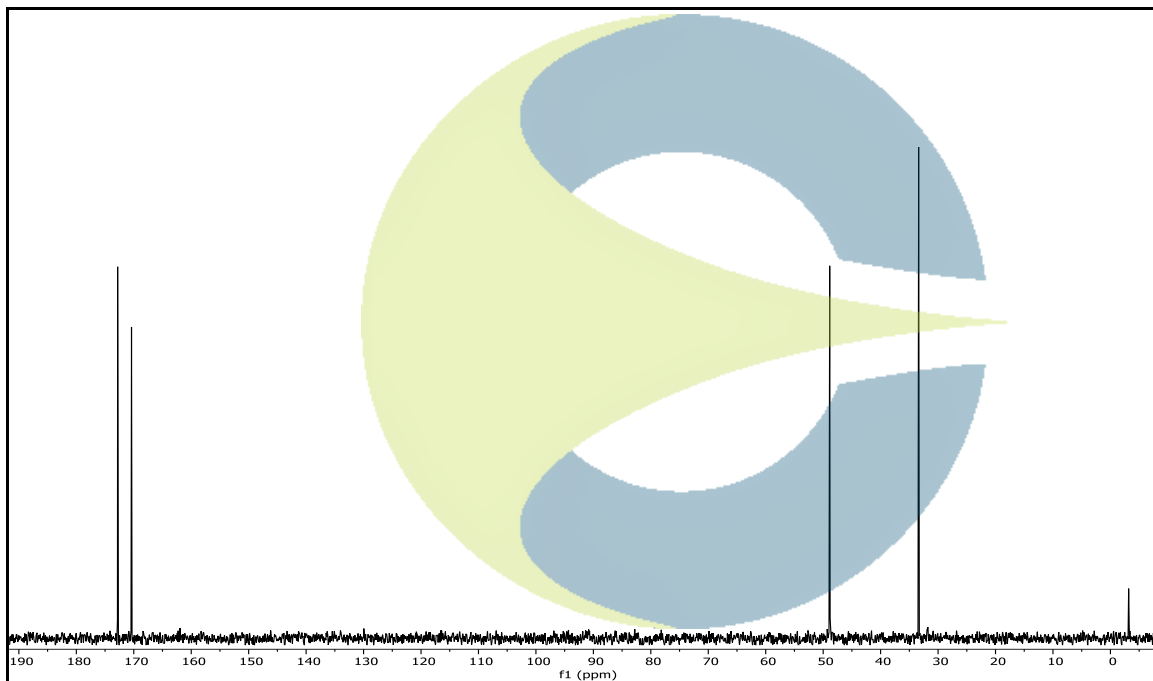


**<sup>1</sup>H-NMR SPECTRUM OF L-ASPARTIC ACID (CDXA-08-2488) IN D<sub>2</sub>O + TMSP**



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<sup>13</sup>C-NMR SPECTRUM OF L-ASPARTIC ACID (CDXA-08-2488) IN D<sub>2</sub>O + TMS<sup>+</sup>

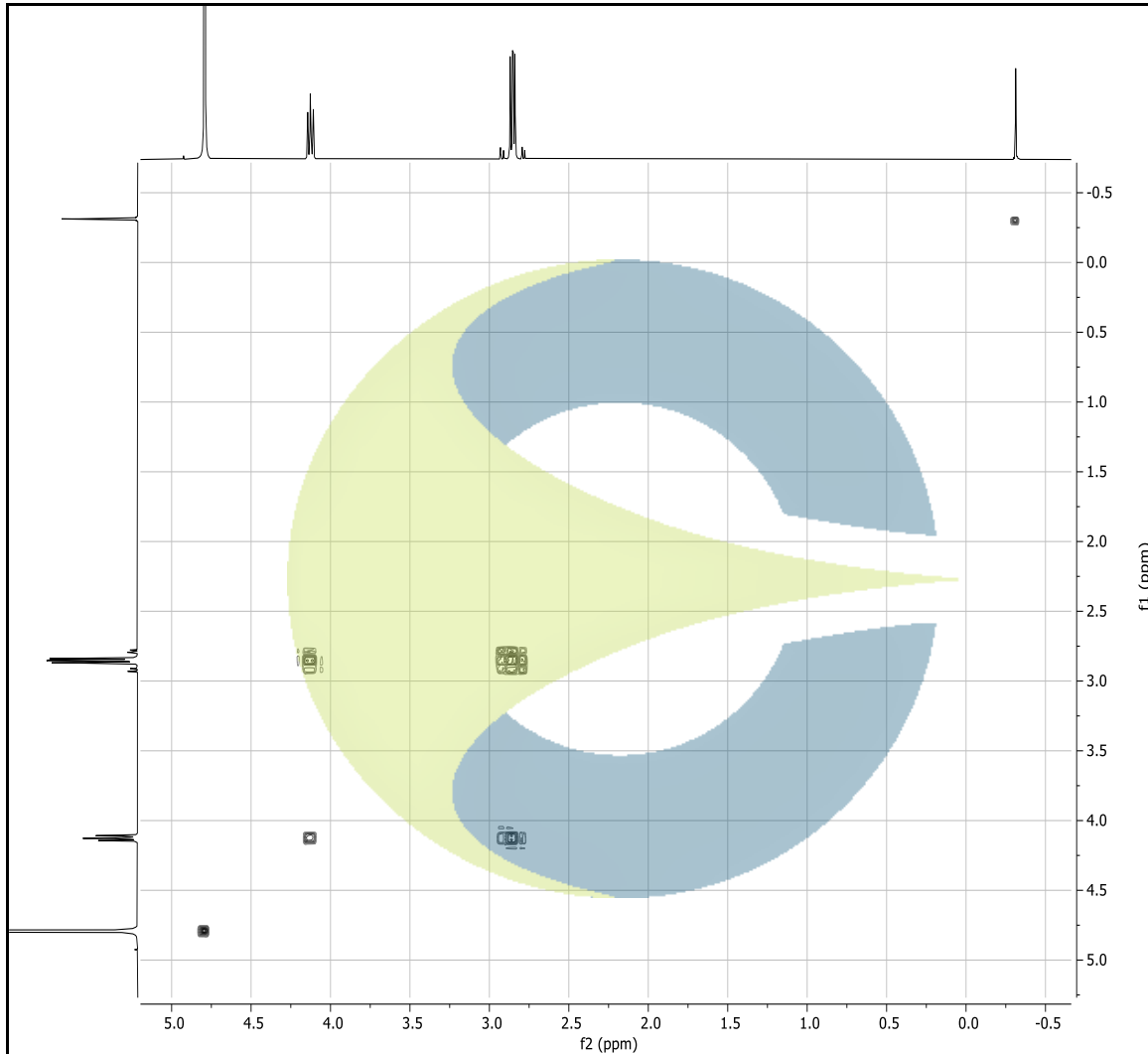


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Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

India Contact:  
Life Technologies (India) Pvt. Ltd.  
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)

**COSY-NMR SPECTRUM OF L-ASPARTIC ACID (CDXA-08-2488) IN D<sub>2</sub>O + TMSP**



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Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

India Contact:  
Life Technologies (India) Pvt. Ltd.  
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
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## REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	12/03/2008	New report
01	08/30/2013	Material passed re-evaluation. Updated expiration date.
02	11/18/2013	Corrected HPLC sample preparation information
03	08/17/2018	Passed second re-evaluation by HPLC and KF. Updated expiration date, analytical method, conditions, chromatograms, and results. Removed melting point.
04	07/21/2022	Passed second re-evaluation by HPLC, KF. Updated expiration date, analytical method, conditions, chromatograms and results. Added NMR spectra.

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