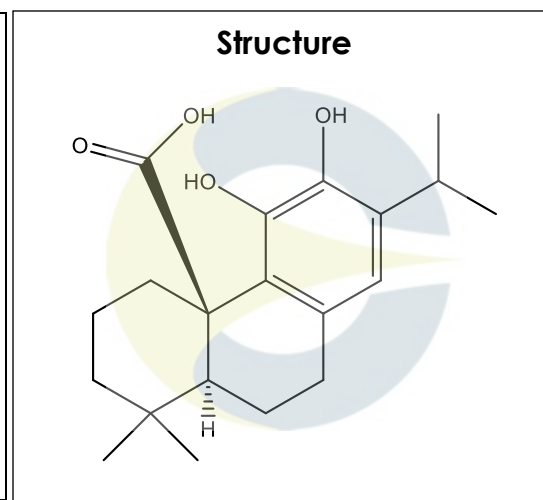


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<b>PRODUCT NAME</b>	Carnosic acid
<b>PART NUMBER</b>	00003198
<b>STANDARD TYPE</b>	Primary (P)
<b>LOT NUMBER</b>	00003198-081
<b>REPORT NUMBER</b>	CDXA-RSS-3240-02
<b>SAMPLE NUMBER</b>	CDXA-08-3376
<b>DATE OF SAMPLE</b>	11/08/2008
<b>DATE OF RE-EVALUATION</b>	12/07/2012 (1 <sup>st</sup> ); 12/01/2016 (2 <sup>nd</sup> ); 08/26/2020 (3 <sup>rd</sup> )
<b>DATE OF REPORT</b>	09/14/2020



<b>CHEMICAL NAMES</b>	11,12-Dihydroxy-13-isopropyl-podocarpa-8,11,13-trien-17-oic acid; Salvin; (4aR,10aS)-1,3,4,9,10,10a-hexahydro-5,6-dihydroxy-1,1-dimethyl-7-(1-methylethyl)-4a(2H)-Phenanthrenecarboxylic acid
<b>CHEMICAL FORMULA</b>	C <sub>20</sub> H <sub>28</sub> O <sub>4</sub>
<b>MOLECULAR WEIGHT (MW)</b>	332.43
<b>CHEMICAL FAMILY</b>	Phenolic acids
<b>CAS NUMBER</b>	[3650-09-7]
<b>EC#(EINECS)</b>	609-253-7
<b>RTECS</b>	SF7300000

## ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	97.6%
HPLC	0.700.10.2.METH22	NA	97.6%
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	ND
Appearance	NA	NA	White powder

\*Testing performed at an ISO 17025 accredited subcontracted laboratory.

ADJUSTED PURITY: 97.6% IS BASED ON (100 - 0.0 SOLVENTS - 0.0 WATER) X 97.6% HPLC

## STORAGE CONDITIONS

<b>STORAGE</b>	-20 °C in a dry place.
<b>EXPIRATION DATE</b>	08/2025 under the above conditions.

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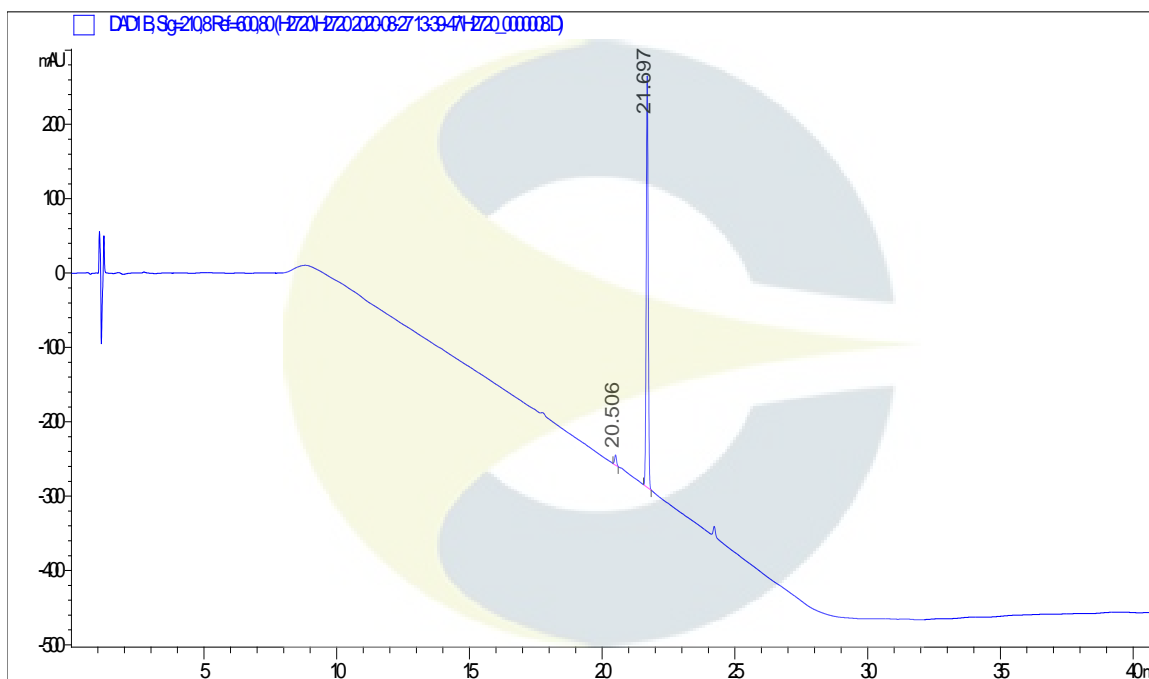
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## ANALYTICAL CONDITIONS

<b>INSTRUMENT</b>	AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF
<b>COLUMN</b>	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
<b>MOBILE PHASE</b>	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.
<b>COLUMN TEMP.</b>	60 °C
<b>FLOW RATE</b>	0.4 mL/minute
<b>INJECTION VOL.</b>	0.2 µL
<b>INJECTION CONC.</b>	1.2 mg/mL in Methanol
<b>DETECTION</b>	210 ± 4 nm

## HPLC CHROMATOGRAM OF CARNOSIC ACID (CDXA-08-3376)

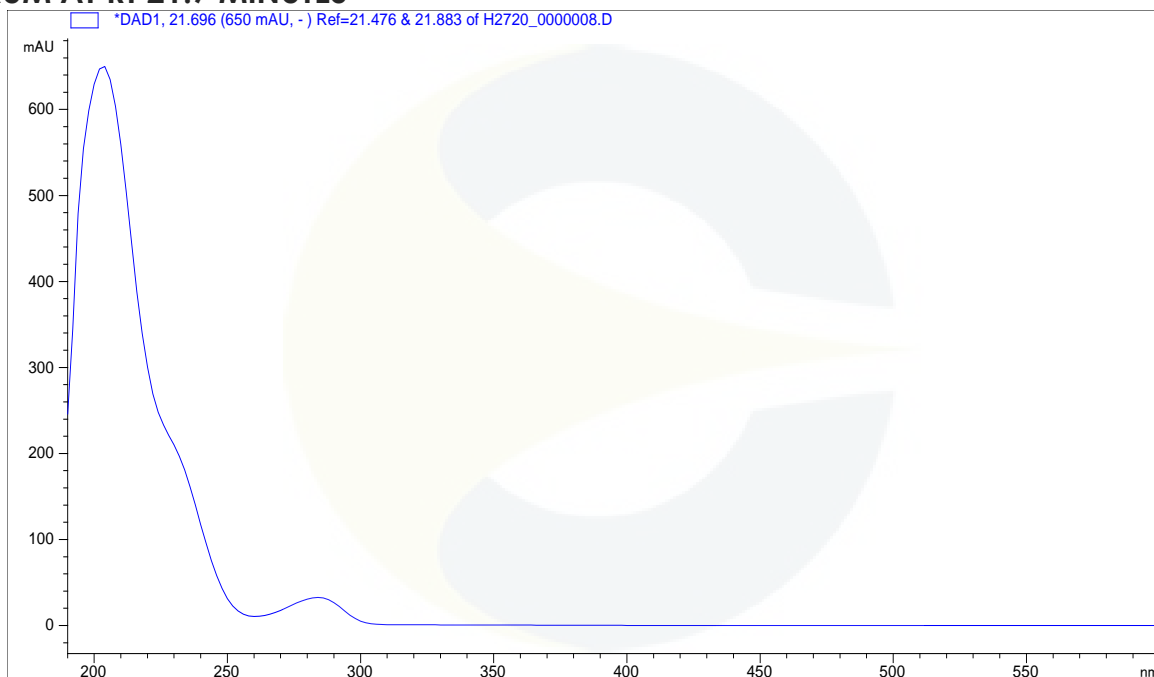


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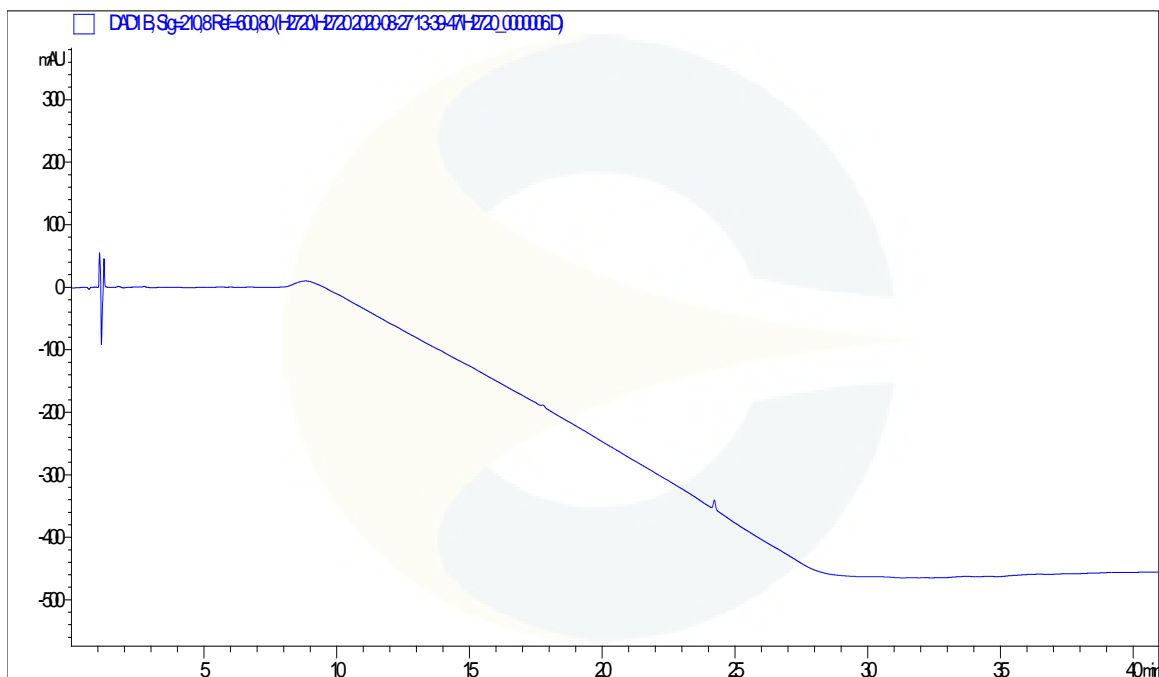
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## UV SPECTRUM AT RT 21.7 MINUTES



## HPLC CHROMATOGRAM OF DILUENT BLANK

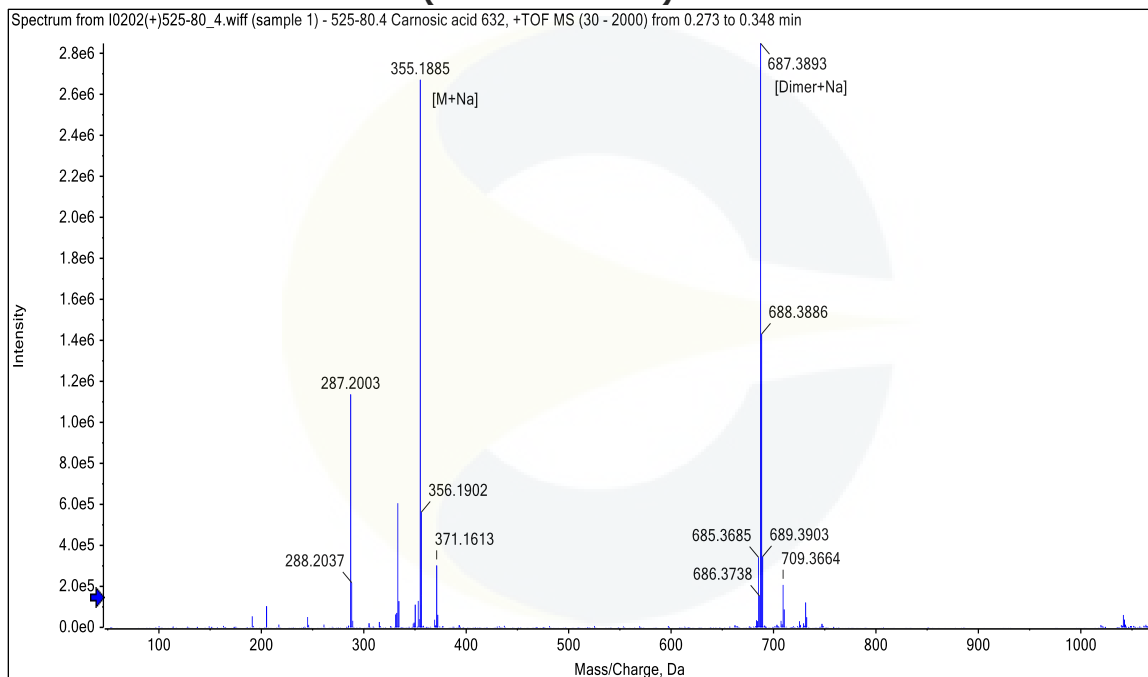


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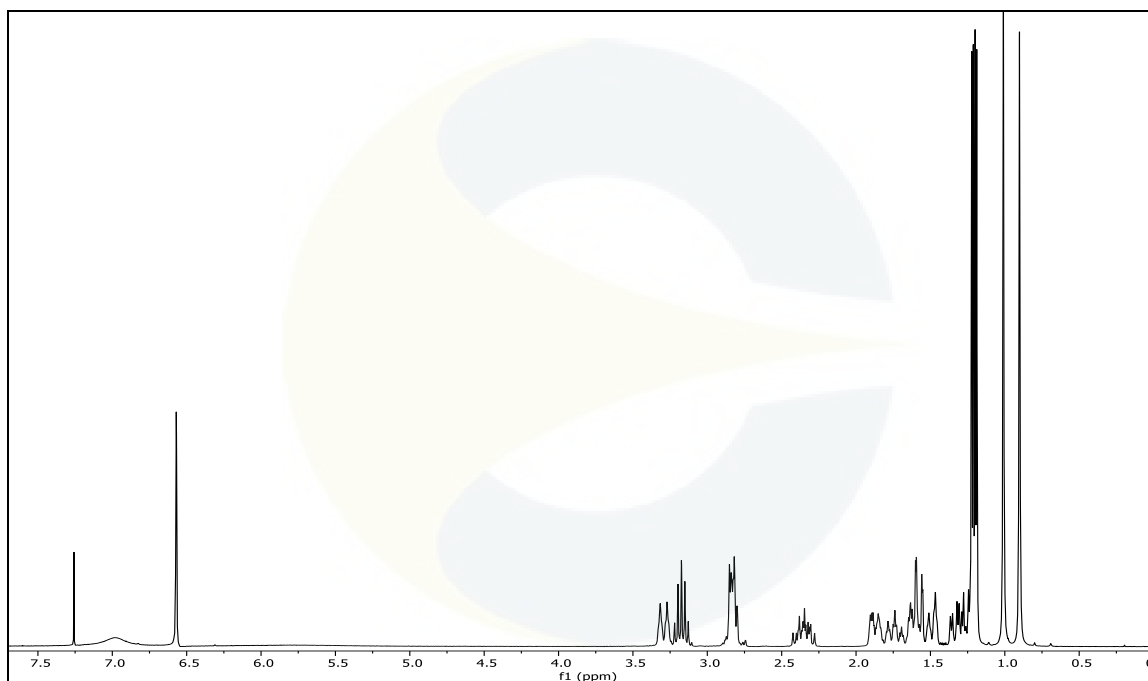
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## MASS SPECTRUM OF CARNOSIC ACID (CDXA-08-3376)



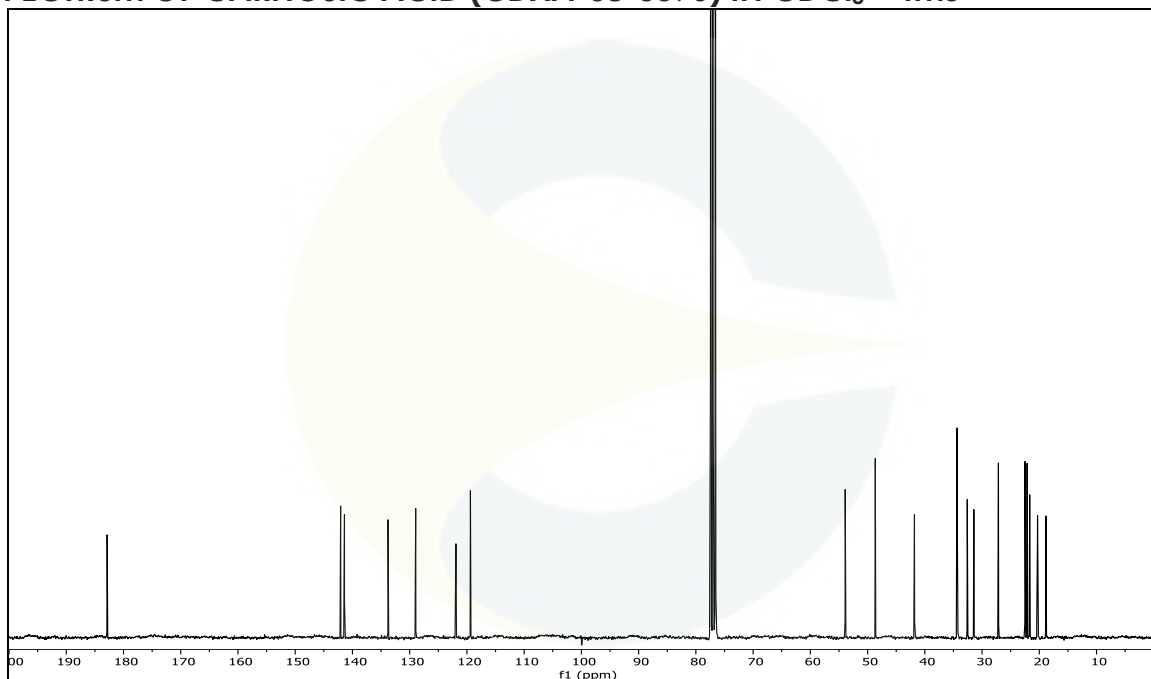
## <sup>1</sup>H-NMR SPECTRUM OF CARNOSIC ACID (CDXA-08-3376) in CDCl<sub>3</sub> + TMS



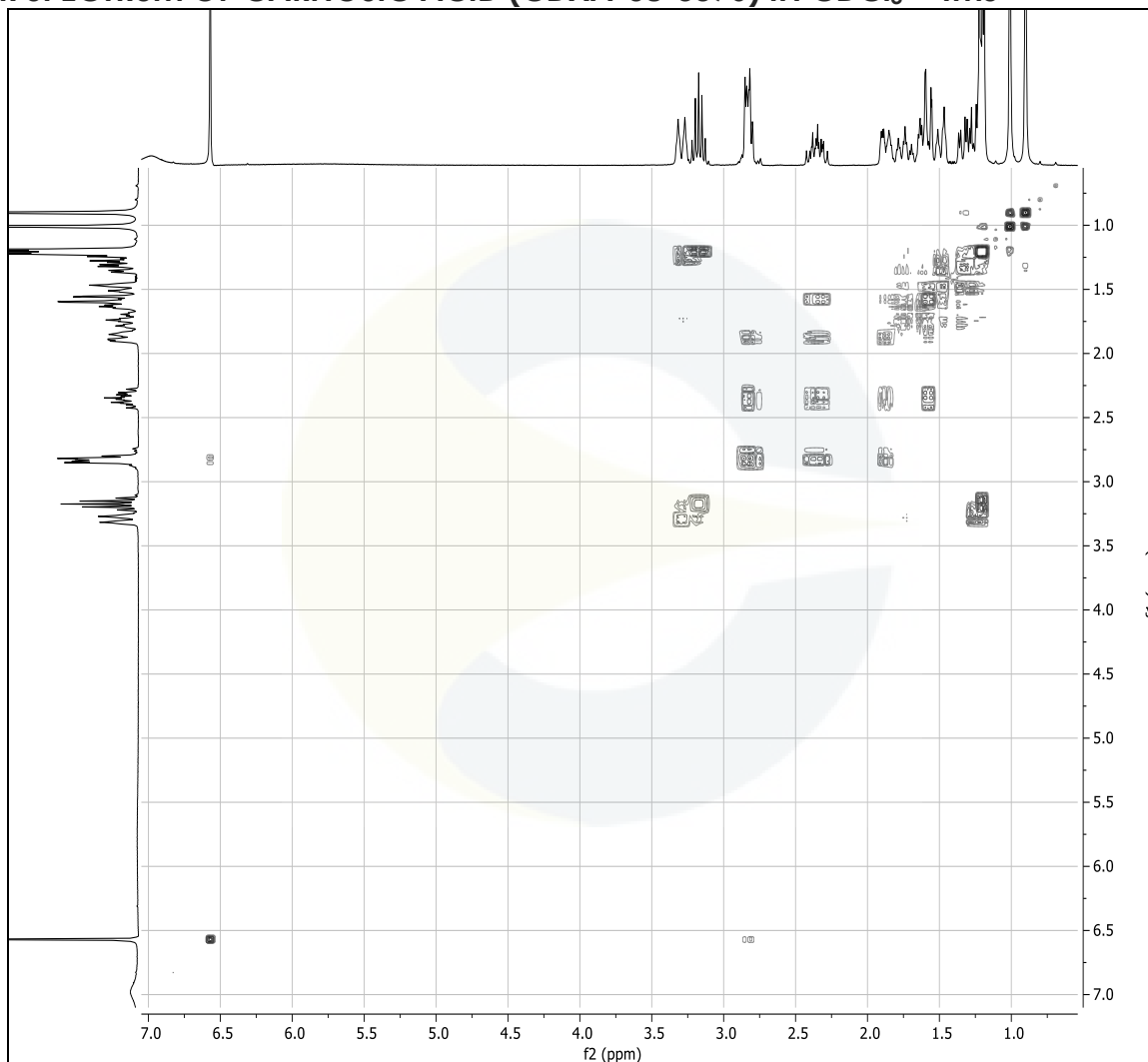
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<sup>13</sup>C-NMR SPECTRUM OF CARNOSIC ACID (CDXA-08-3376) IN CDCl<sub>3</sub> + TMS


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**COSY-NMR SPECTRUM OF CARNOSIC ACID (CDXA-08-3376) IN  $\text{CDCl}_3$  + TMS**

**REVISION HISTORY**

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	12/21/2012	New report and first re-evaluation.
01	12/22/2016	Passed second re-evaluation by HPLC, KF. Updated expiration date, melting point and added EC # and RTECS #.
02	09/14/2020	Passed third re-evaluation by HPLC, KF, NMR, Res Solv, and MS. Updated expiration date, analytical conditions, results, chromatograms, spectra, and structure. Removed melting point.

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