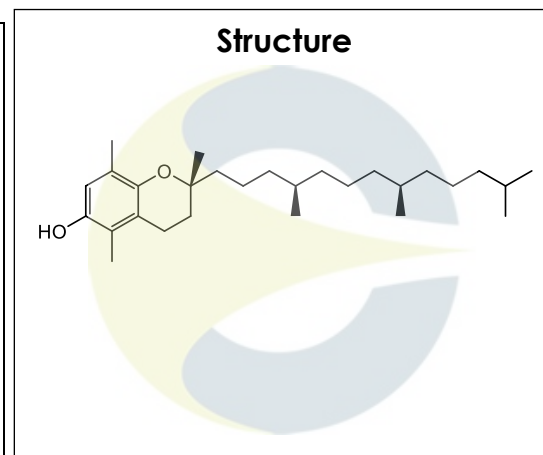


Certificate of Analysis
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PRODUCT NAME	D-beta-Tocopherol
PART NUMBER	00020319
STANDARD TYPE	Primary (P)
LOT NUMBER	00020319-318
REPORT NUMBER	CDXA-RSS-9663-00
SAMPLE NUMBER	CDXP-22-00102
DATE OF SAMPLE	02/03/2022
DATE OF REPORT	02/10/2022



CHEMICAL NAMES	(2R)-3,4-Dihydro-2,5,8-trimethyl-2-[(4R,8R)-4,8,12-trimethyltridecyl]-2H-1-benzopyran-6-ol; β-D-Tocopherol; (R,R,R)-β-Tocopherol
CHEMICAL FORMULA	C ₂₈ H ₄₈ O ₂
MOLECULAR WEIGHT (MW)	416.68
CHEMICAL FAMILY	Tocopherols
CAS NUMBER	[16698-35-4]
EC#(EINECS)	240-747-1
RTECS	N/A

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	91.0%
HPLC	0.700.10.2.METH38	≥ 90%	91.2%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	Xylenes: 1720 ppm
Water	0.700.12.37	NA	ND
Appearance	NA	NA	Oil

*Testing performed at an ISO 17025 accredited subcontracted laboratory.
 ADJUSTED PURITY: 91.0% IS BASED ON (100 - 0.2 SOLVENTS - 0.0 WATER) X 91.2% HPLC

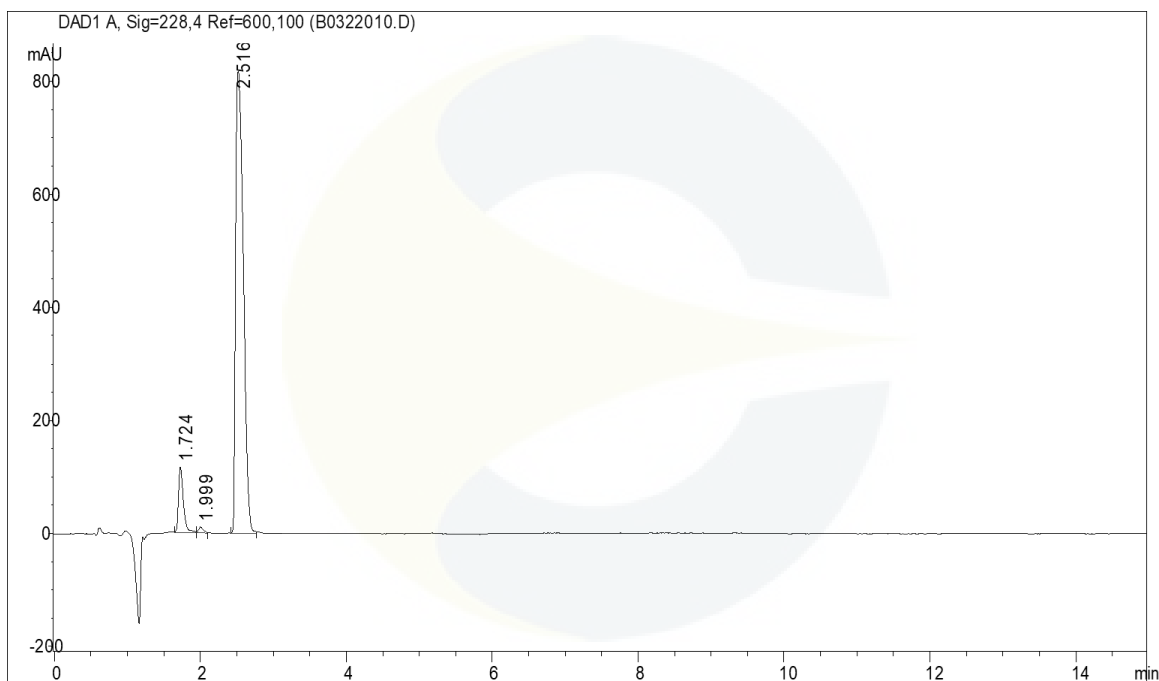
STORAGE CONDITIONS

STORAGE	-20 °C in a dry place.
EXPIRATION DATE	02/2027 under the above conditions.

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ANALYTICAL CONDITIONS

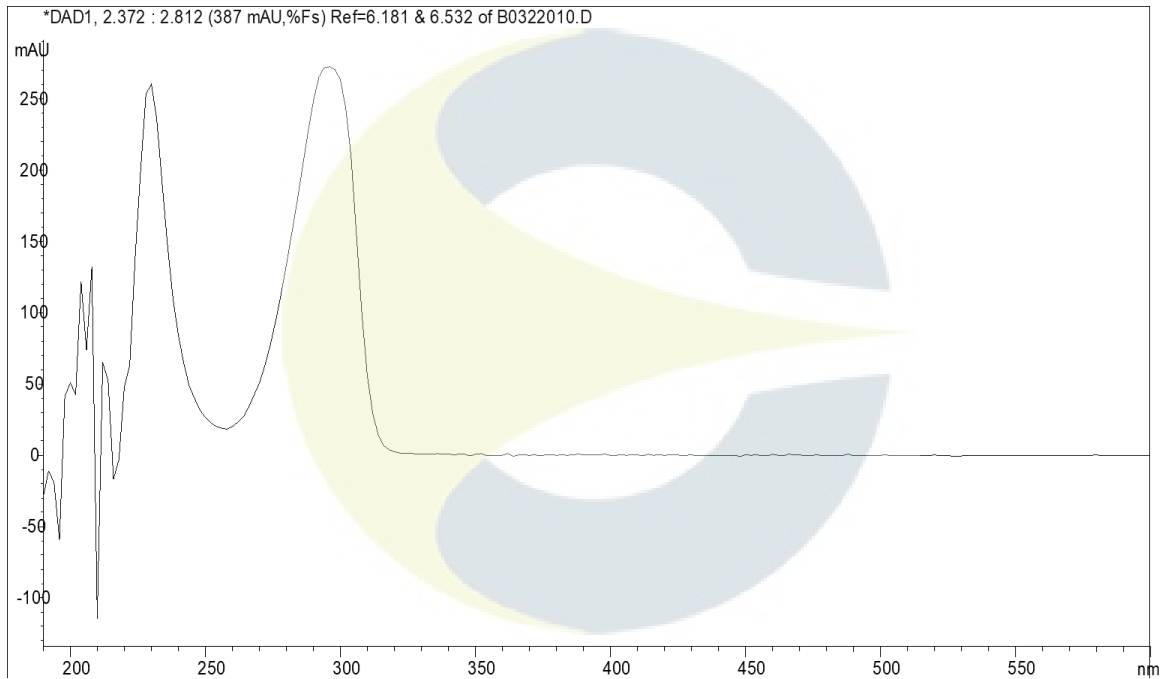
INSTRUMENT	AGILENT 1100 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF
COLUMN	Phenomenex Luna Silica (2) 150 x 2.00 mm, 3 μm particle size
MOBILE PHASE	0.2% Isopropyl alcohol + 0.8% Acetic acid in n-Hexane Isocratic for 15 minutes
COLUMN TEMP.	35 °C
FLOW RATE	0.8 mL/minute
INJECTION VOL.	10.0 μL
INJECTION CONC.	1.1 mg/mL in n-Hexane
DETECTION	228 ± 2 nm

HPLC CHROMATOGRAM OF D-BETA-TOCOPHEROL (CDXP-22-00102)


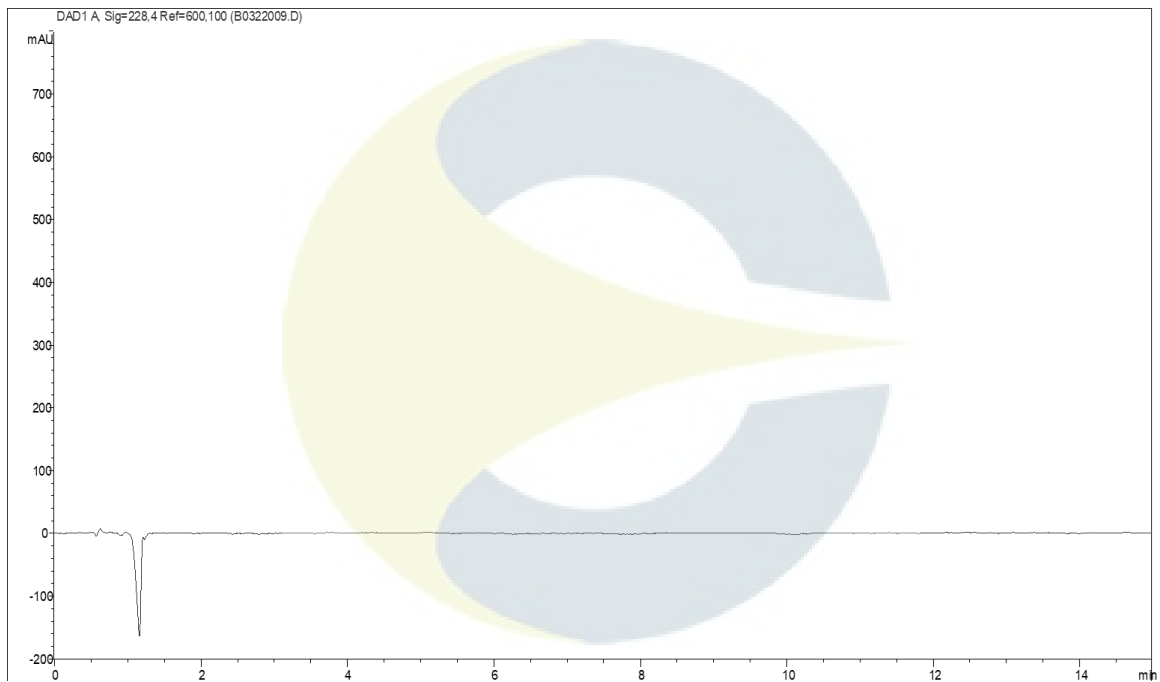
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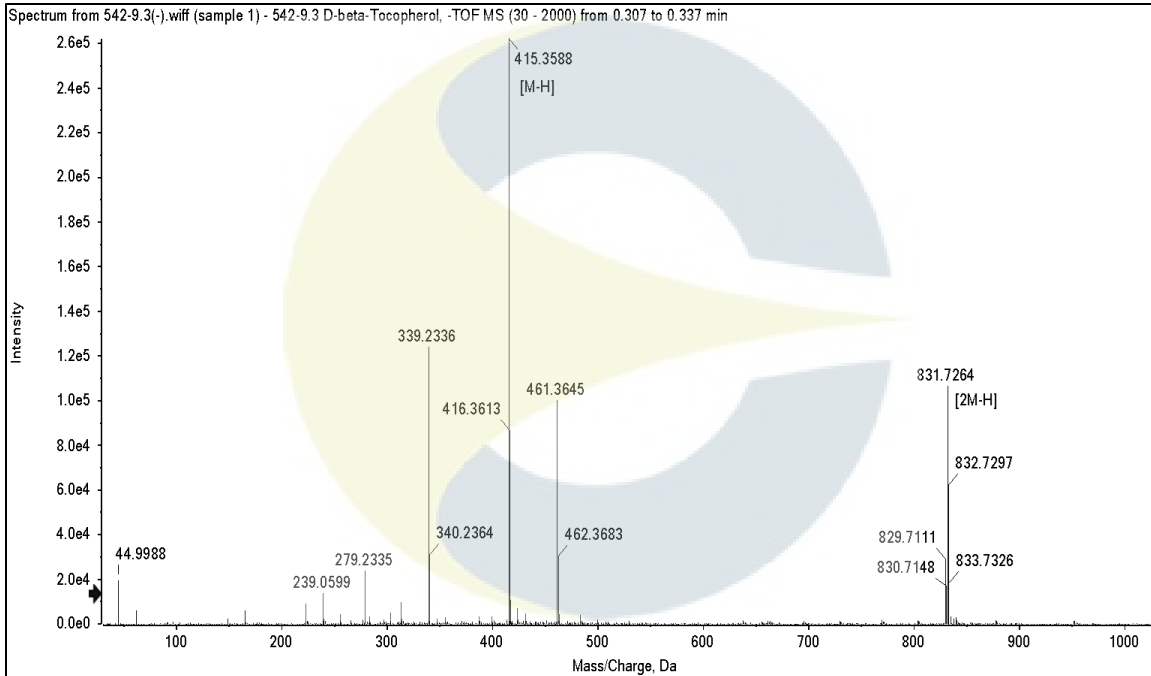
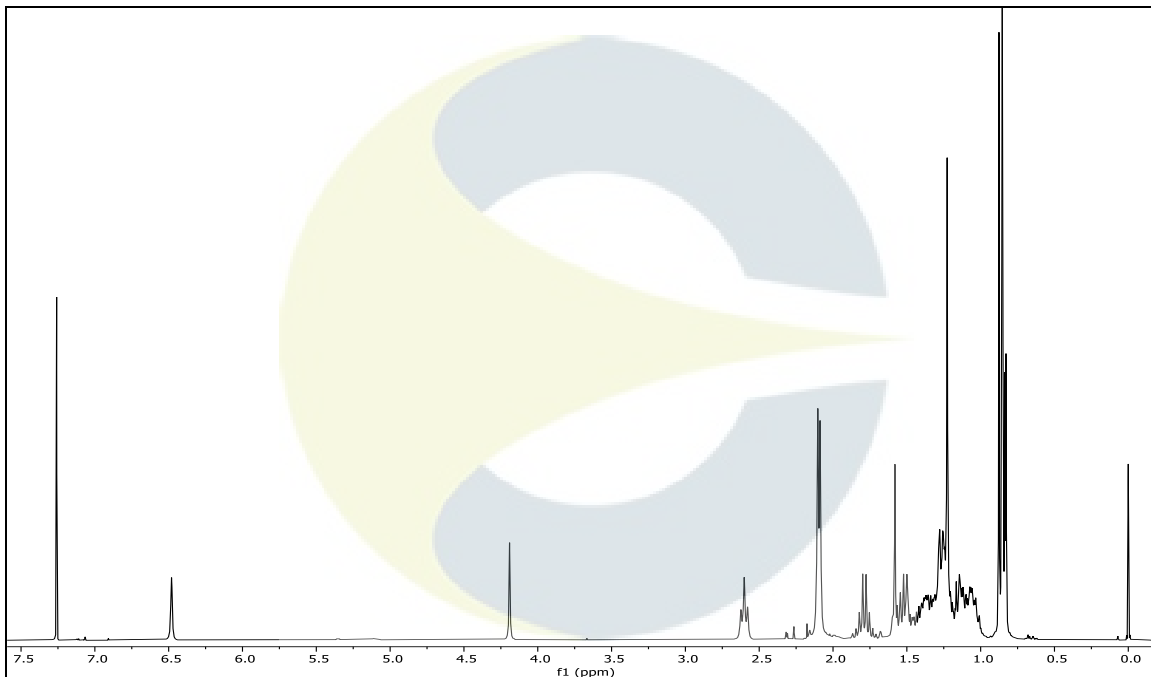
UV SPECTRUM AT 2.5 MINUTES



HPLC CHROMATOGRAM OF DILUENT BLANK

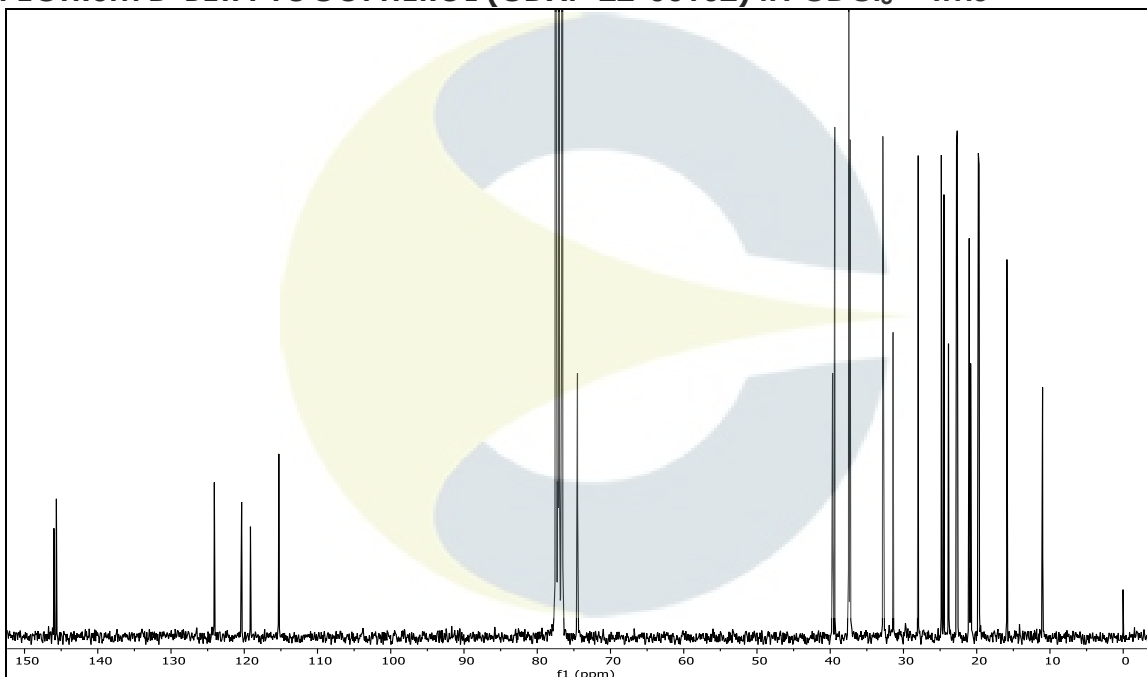


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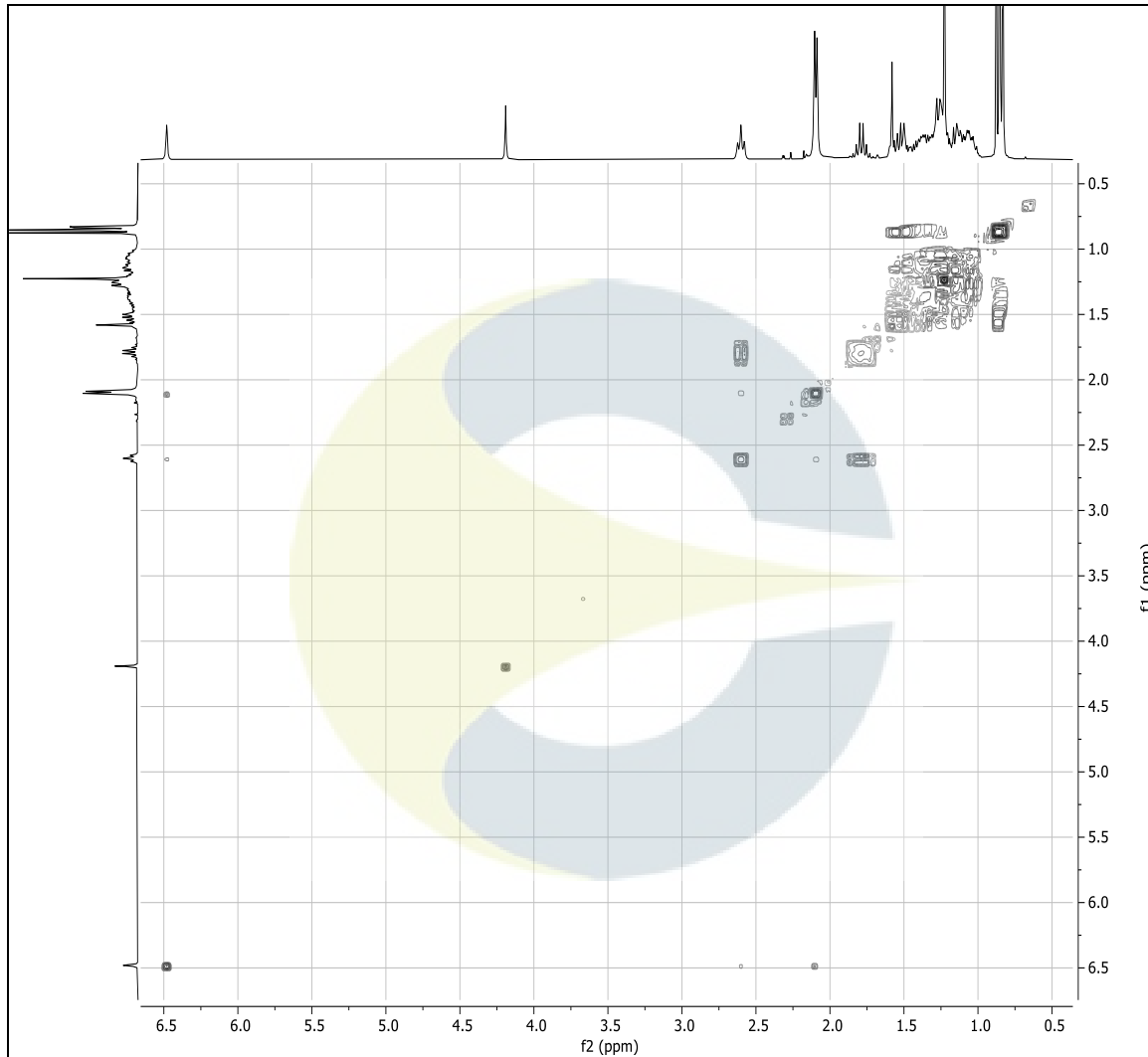
MASS SPECTRUM OF D-BETA-TOCOPHEROL (CDXP-22-00102)

¹H-NMR SPECTRUM OF D-BETA-TOCOPHEROL (CDXP-22-00102) IN CDCl₃ + TMS


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¹³C-NMR SPECTRUM D-BETA-TOCOPHEROL (CDXP-22-00102) IN CDCl₃ + TMS



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COSY-NMR SPECTRUM OF D-BETA-TOCOPHEROL (CDXP-22-00102) IN CDCl₃ + TMS

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	02/10/2022	New report

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