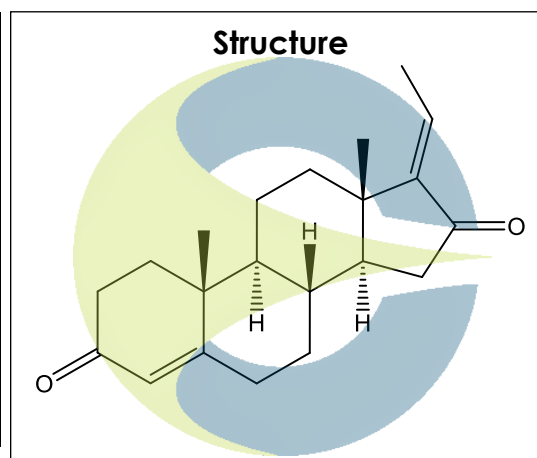


**Certificate of Analysis**

For Laboratory Use Only

<b>PRODUCT NAME</b>	Guggulsterone E
<b>PART NUMBER</b>	00007500
<b>STANDARD TYPE</b>	Primary (P)
<b>LOT NUMBER</b>	00007500-610
<b>REPORT NUMBER</b>	CDXA-RSS-9855-00
<b>SAMPLE NUMBER</b>	CDXP-22-00587
<b>DATE OF SAMPLE</b>	06/28/2022
<b>DATE OF REPORT</b>	07/21/2022



<b>CHEMICAL NAMES</b>	(17E)-Pregna-4,17(20)-diene-3,16-dione; E-Guggulsterone; trans-Guggulsterone
<b>CHEMICAL FORMULA</b>	C <sub>21</sub> H <sub>28</sub> O <sub>2</sub>
<b>MOLECULAR WEIGHT (MW)</b>	312.45
<b>CHEMICAL FAMILY</b>	Steroids
<b>CAS NUMBER</b>	[39025-24-6]
<b>EC#(EINECS)</b>	609-606-5
<b>RTECS</b>	NA

**ANALYTICAL RESULTS**

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	98.4%
HPLC	0.700.10.2.METH22	≥ 90%	98.8%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	Cyclohexane: 852 ppm; Hexane: 1680 ppm; Ethyl Acetate: 1200 ppm
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

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

ADJUSTED PURITY: 98.4% IS BASED ON (100 - 0.4 SOLVENTS - 0.0 WATER) X 98.8% HPLC

**STORAGE CONDITIONS**

<b>STORAGE</b>	+4 °C in a dry place.
<b>EXPIRATION DATE</b>	06/2027 under the above conditions.

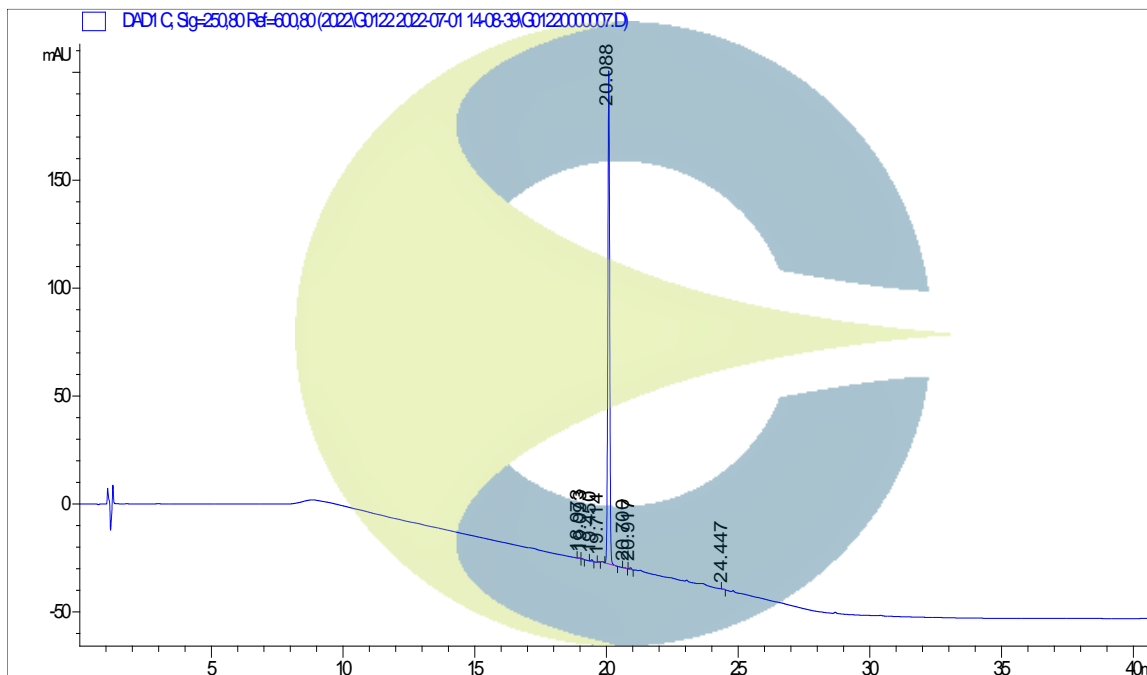
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**Certificate of Analysis**

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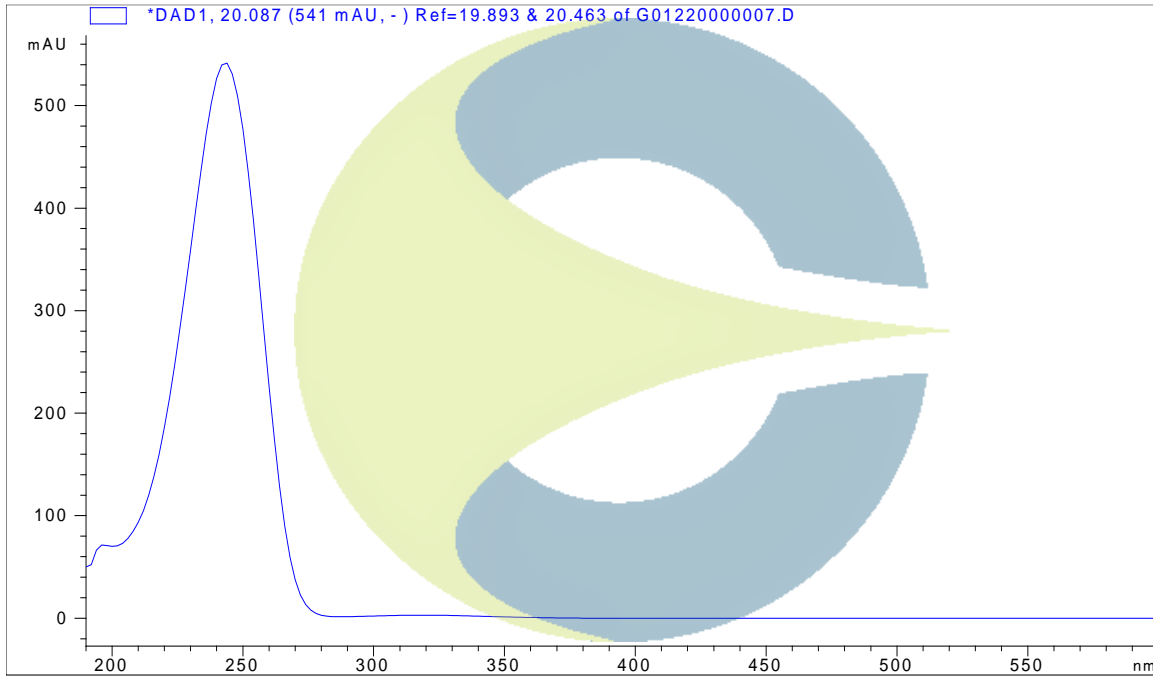
**ANALYTICAL CONDITIONS**

<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, then decreasing to 5% B over 1 minute.
<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>	1.0 mg/mL in Methanol
<b>DETECTION</b>	250 ± 40nm

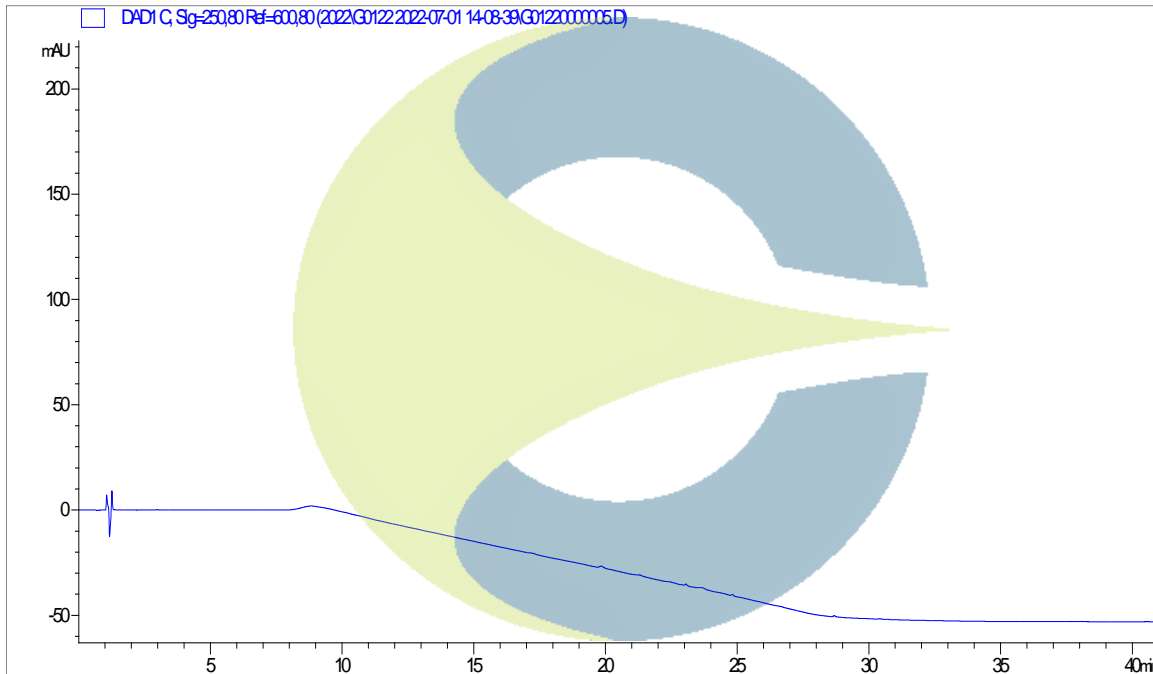
**HPLC CHROMATOGRAM OF GUGGULSTERONE E (CDXP-22-00587)**


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**UV SPECTRUM AT RT = 20.1 MINUTES**

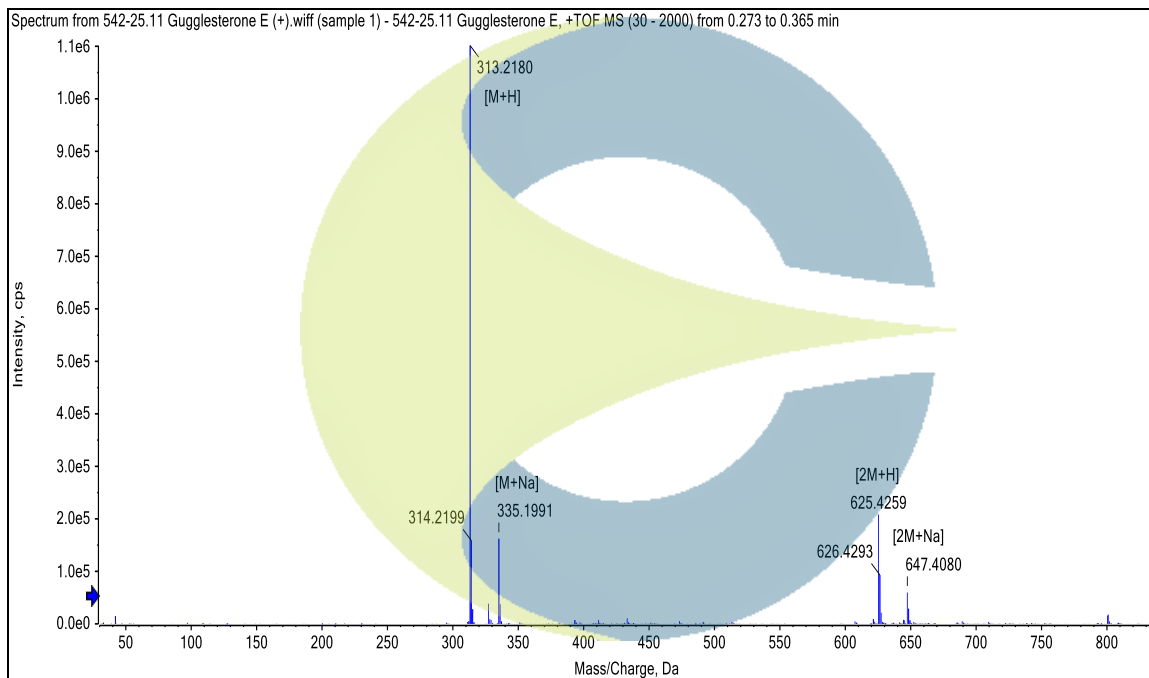


**HPLC CHROMATOGRAM OF DILUENT BLANK**

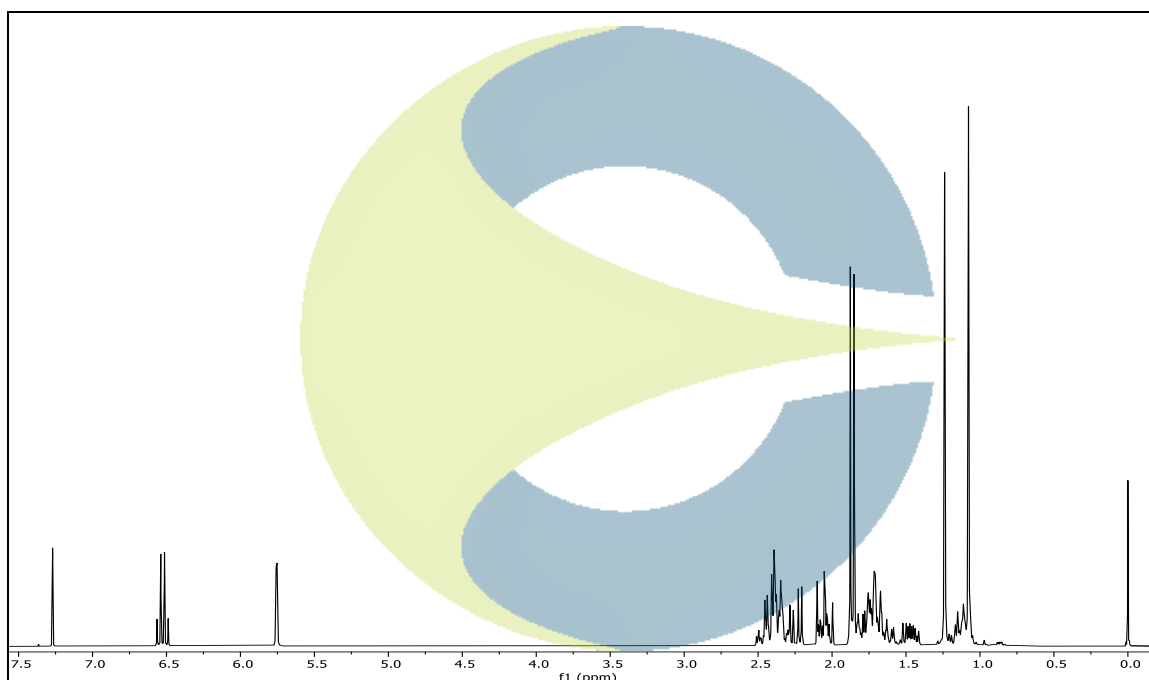


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### MASS SPECTRUM OF GUGGULSTERONE E (CDXP-22-00587)

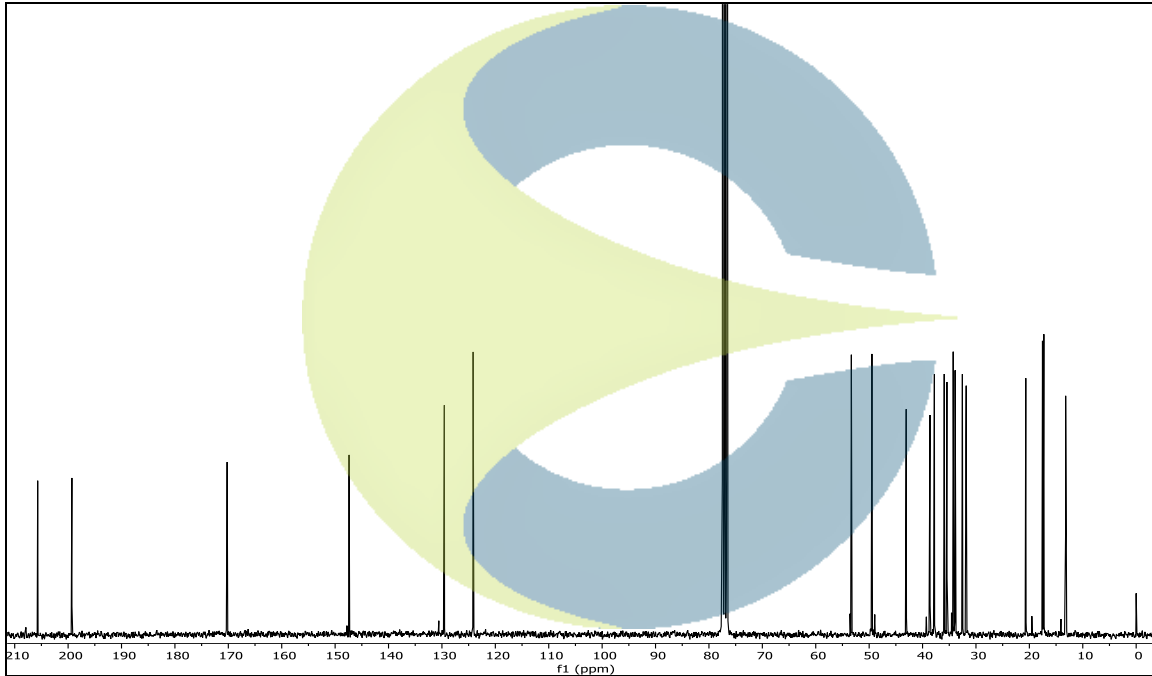


### <sup>1</sup>H-NMR SPECTRUM OF GUGGULSTERONE E (CDXP-22-00587) IN CDCl<sub>3</sub> + TMS



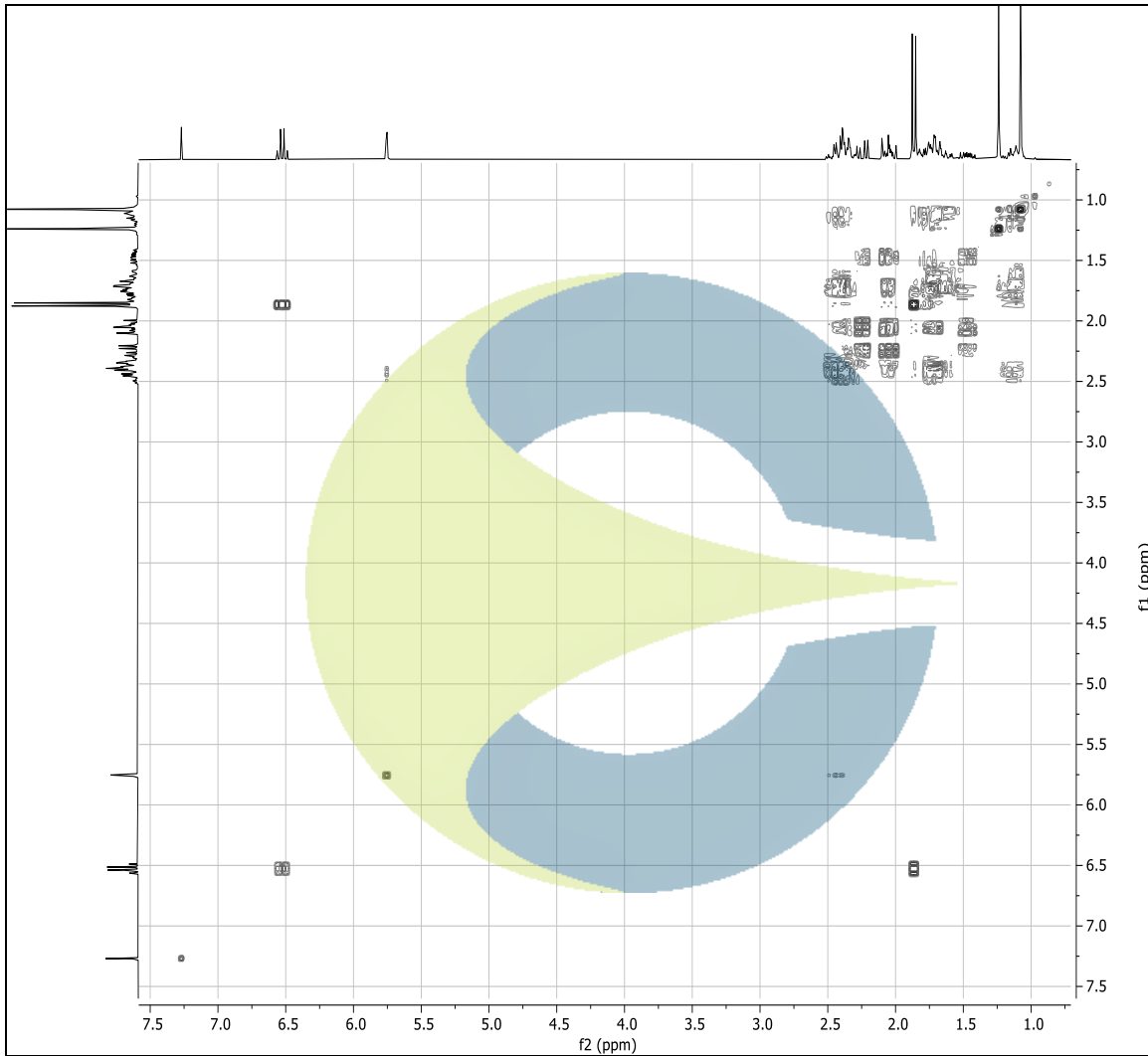
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<sup>13</sup>C-NMR SPECTRUM GUGGULSTERONE E (CDXP-22-00587) IN CDCl<sub>3</sub> + TMS



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COSY-NMR SPECTRUM OF GUGGULSTERONE E (CDXP-22-00587) IN CDCl<sub>3</sub> + TMS



REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	07/21/2022	New report

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