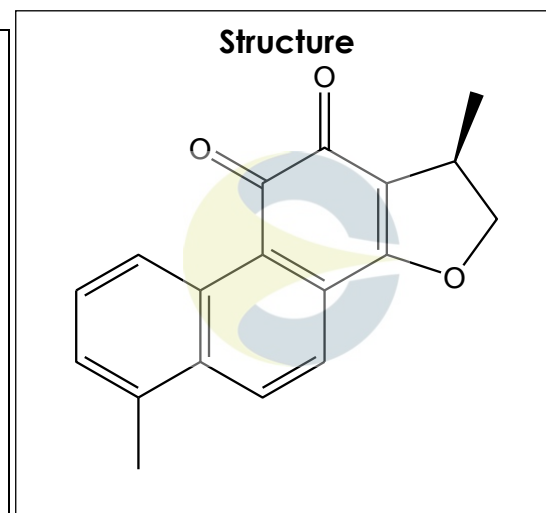


Certificate of Analysis

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PRODUCT NAME	Dihydrotanshinone I
PART NUMBER	00020044
STANDARD TYPE	Primary (P)
LOT NUMBER	00020044-611
REPORT NUMBER	CDXA-RSS-4536-02
SAMPLE NUMBER	CDXA-11-3477
DATE OF SAMPLE	06/03/2011
DATE OF RE-EVALUATION	08/11/2015 (1 st); 01/31/2020 (2 nd)
DATE OF REPORT	02/12/2020



CHEMICAL NAMES	(1R)-1,2-Dihydro-1,6-dimethyl-phenanthro[1,2-b]furan-10,11-dione; (-)-Dihydrotanshinone I; 15,16-Dihydrotanshinone I
CHEMICAL FORMULA	C ₁₈ H ₁₄ O ₃
MOLECULAR WEIGHT (MW)	278.30
CHEMICAL FAMILY	Quinones
CAS NUMBER	[87205-99-0]
EC#(EINECS)	694-674-9
RTECS	SF8282630

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	97.1%
HPLC	0.700.10.2.METH22	NA	98.7%
NMR	99.1-CD-1.0-000122	Conforms to structure	Conforms to structure
Mass Spectrum	Direct Infusion, ESI (+)	Conforms	Conforms
Residual Solvent	99.1-CD-4.0-000115	NA	n-BuOH - 0.1%, DCM - 1.4%, EtOH - 0.1%
Water	0.700.12.37	NA	ND
Appearance	NA	NA	Red powder

ADJUSTED PURITY: 97.1% IS BASED ON (100 - 1.6 SOLVENTS - 0.0 WATER) X 98.7% HPLC

STORAGE CONDITIONS

STORAGE	-20 °C in a dry place.
EXPIRATION DATE	01/2025 under the above conditions.

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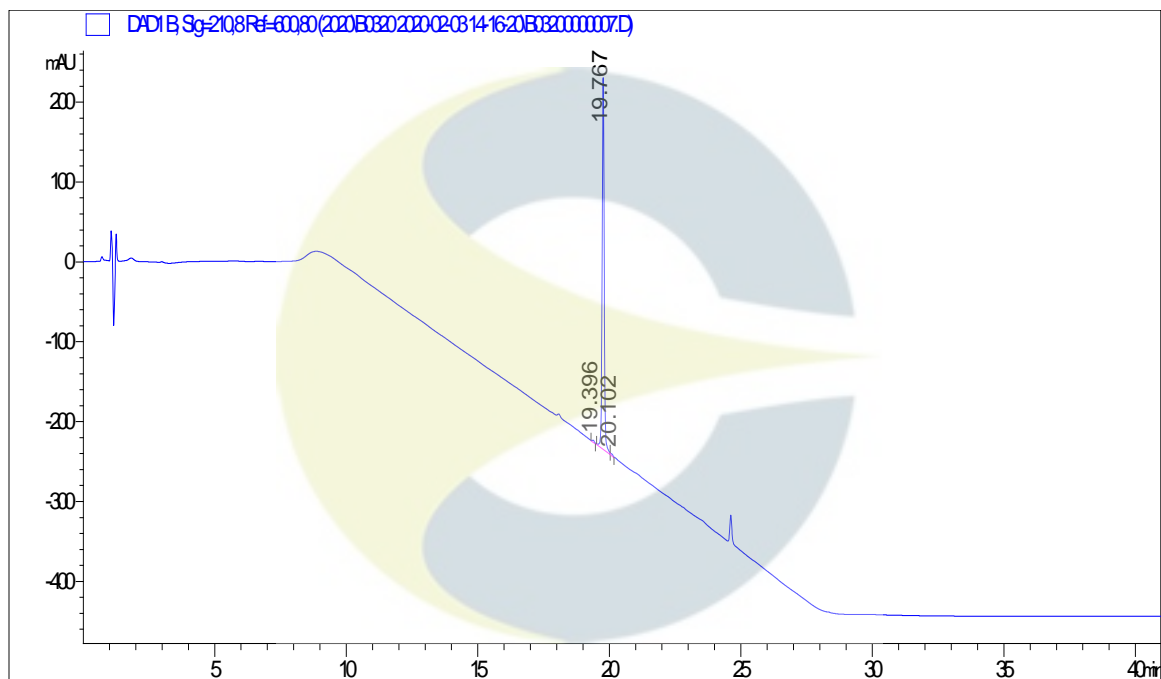
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ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AGILENT 6510 QTOF
COLUMN	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
MOBILE PHASE	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.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.2 µL
INJECTION CONC.	1.1 mg/mL in Methanol
DETECTION	210 ± 4 nm

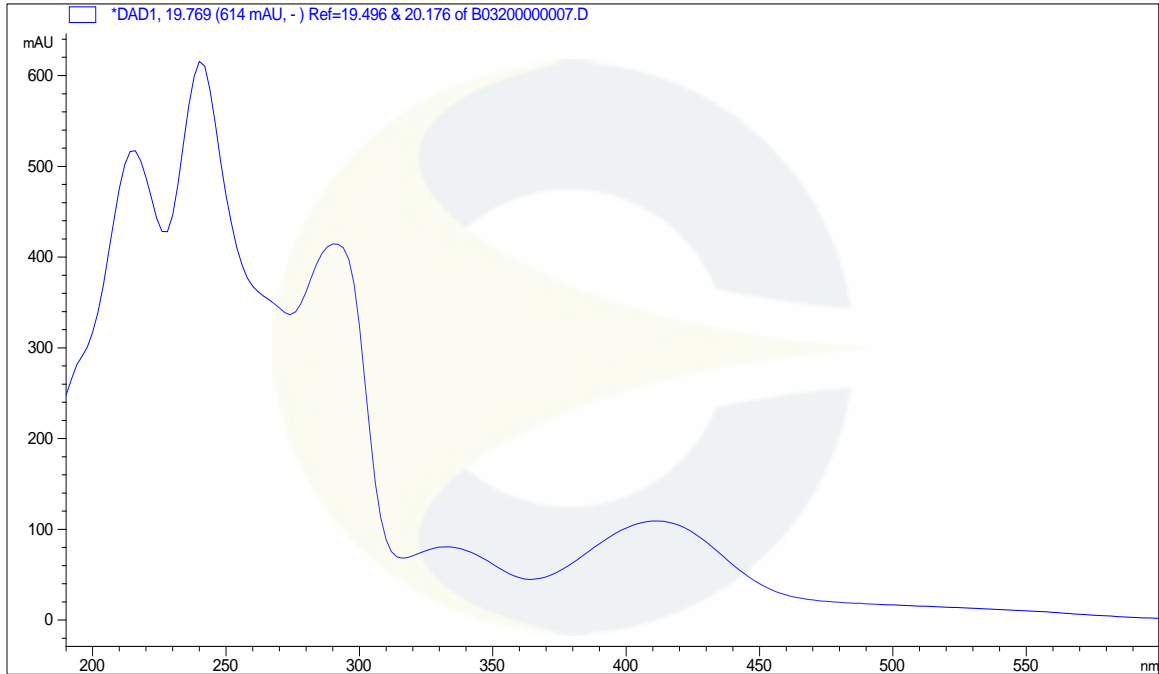
HPLC CHROMATOGRAM OF DIHYDROTANSHINONE I (CDXA-11-3477)



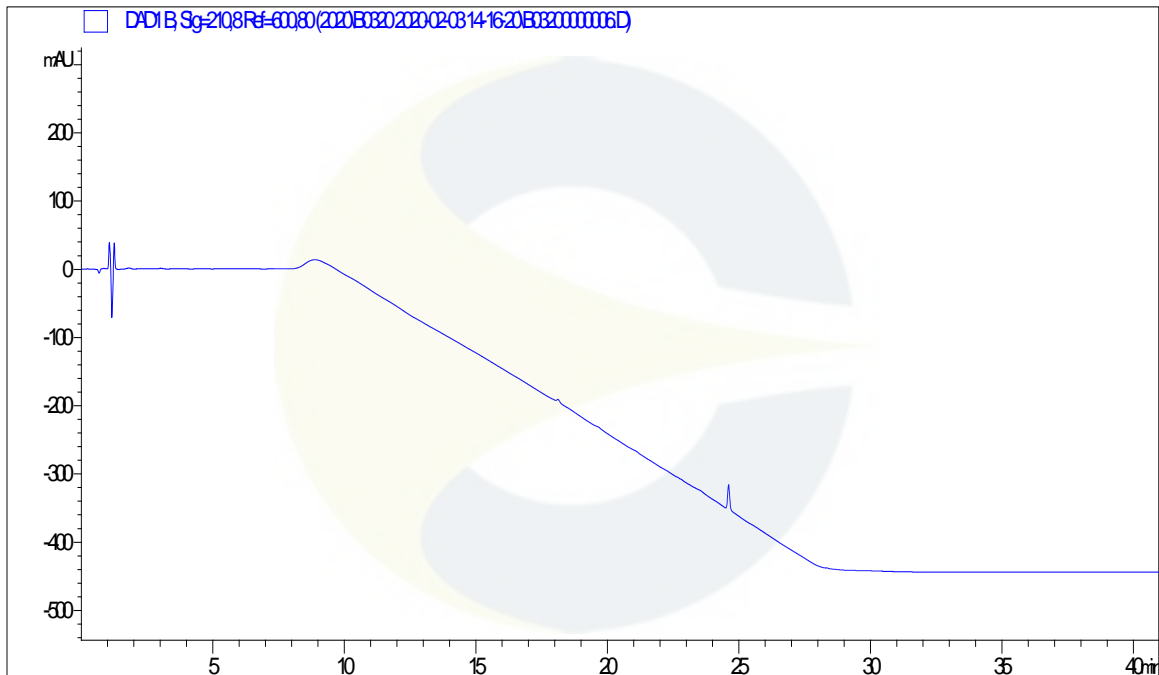
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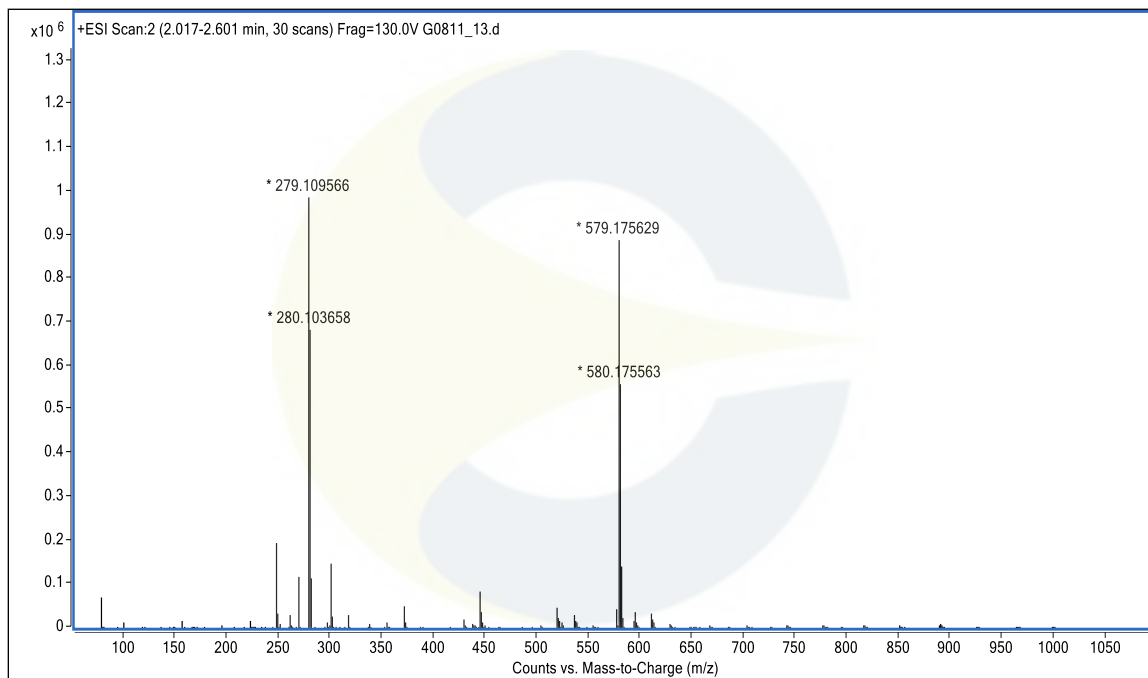
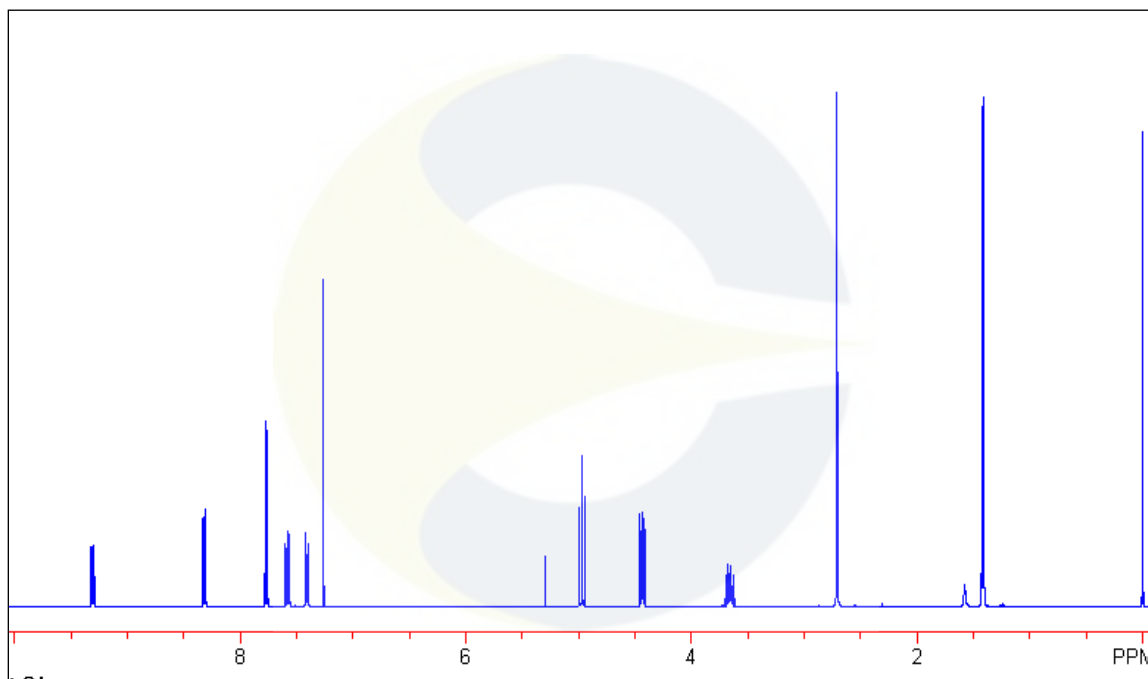
UV SPECTRUM AT RT = 19.8 MINUTES



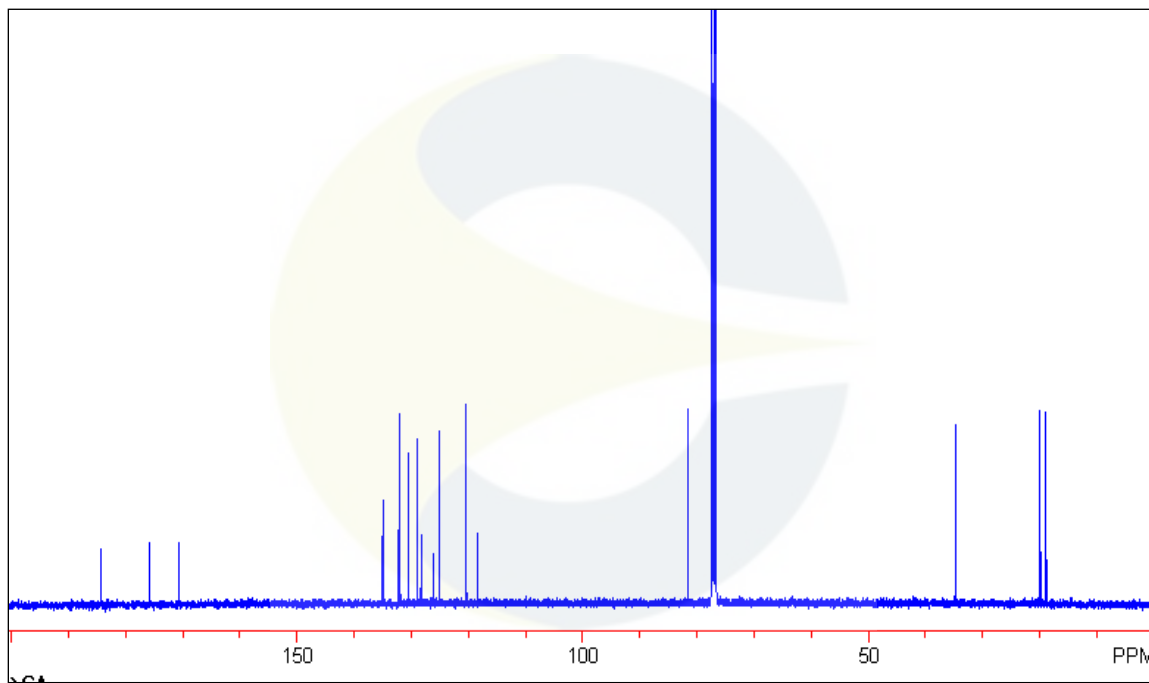
HPLC CHROMATOGRAM OF DILUENT BLANK



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MASS SPECTRUM OF DIHYDROTANSHINONE I (CDXA-11-3477)

¹H-NMR SPECTRUM OF DIHYDROTANSHINONE I (CDXA-11-3477) IN CDCl₃


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¹³C-NMR SPECTRUM OF DIHYDROTANSHINONE I (CDXA-11-3477) IN CDCl₃

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	07/19/2011	New report
01	08/31/2015	Passed re-evaluation by HPLC, KF. Updated expiration date and product name.
02	02/12/2020	Material passed reevaluation by HPLC and KF. Added EINECS and RTECS, removed melting point, and updated analytical results, analytical conditions, chromatograms, and expiration date.

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