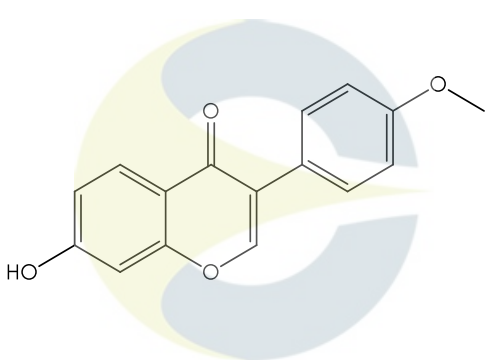


Certificate of Analysis

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PRODUCT NAME	Formononetin	<div style="text-align: center;"> Structure  </div>
PART NUMBER	00006192	
STANDARD TYPE	Primary (P)	
LOT NUMBER	00006192-502	
REPORT NUMBER	CDXA-RSS-5601-03	
SAMPLE NUMBER	CDXA-13-3739	
DATE OF SAMPLE	05/30/2013	
DATE OF RE-EVALUATION	08/22/2017 (1 st); 08/19/2021 (2 nd)	
DATE OF REPORT	09/09/2021	
CHEMICAL NAMES	7-Hydroxy-3-(4-methoxyphenyl)-4H-1-benzopyran-4-one; Flavosil; Formonentin;	
CHEMICAL FORMULA	C ₁₆ H ₁₂ O ₄	
MOLECULAR WEIGHT (MW)	268.26	
CHEMICAL FAMILY	Isoflavones	
CAS NUMBER	[485-72-3]	
EC#(EINECS)	207-623-9	
RTECS	DJ3100114	

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	99.4%
HPLC	0.700.10.2.METH22	≥ 90%	99.6%
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-6.0-000115	NA	DMF – 0.2%
Water	0.700.12.37	NA	ND
Appearance	NA	NA	White powder

ADJUSTED PURITY: 99.4% IS BASED ON (100 - 0.2 SOLVENTS - 0.0 WATER) X 99.6% HPLC

STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	08/2026 under the above conditions.

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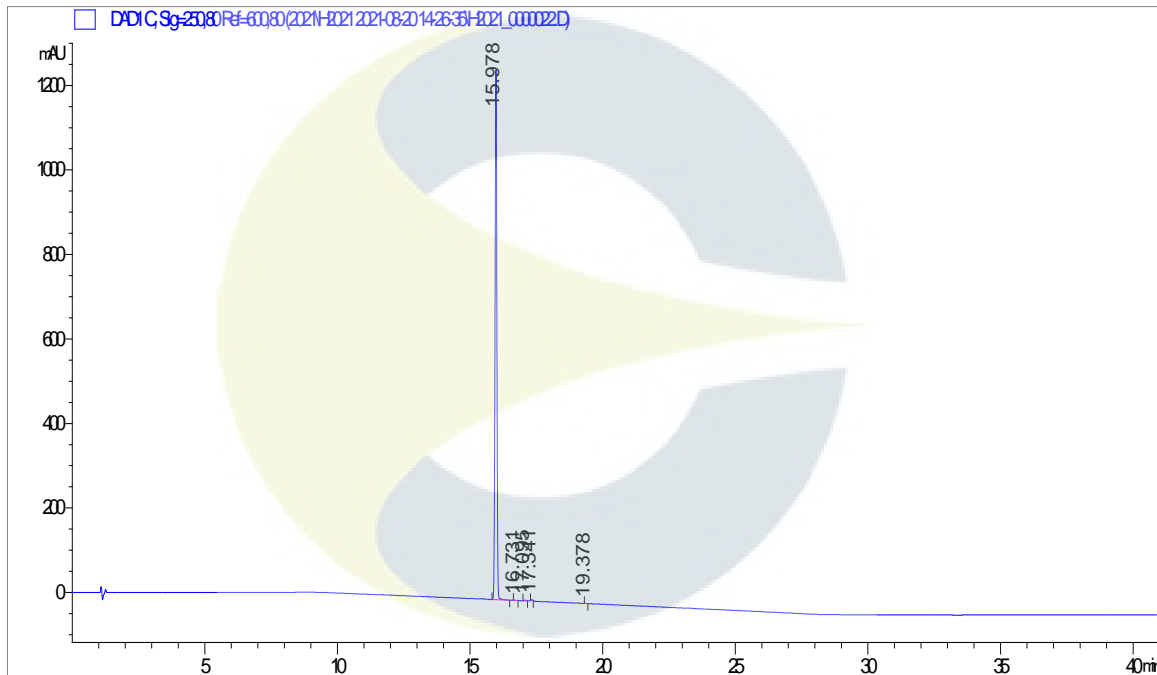
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ANALYTICAL CONDITIONS

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, then decreasing to 5% B for 1 minute.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.4 µL
INJECTION CONC.	1.3 mg/mL in Methanol
DETECTION	250 ± 40 nm

HPLC CHROMATOGRAM OF FORMONONETIN (CDXA-13-3739)

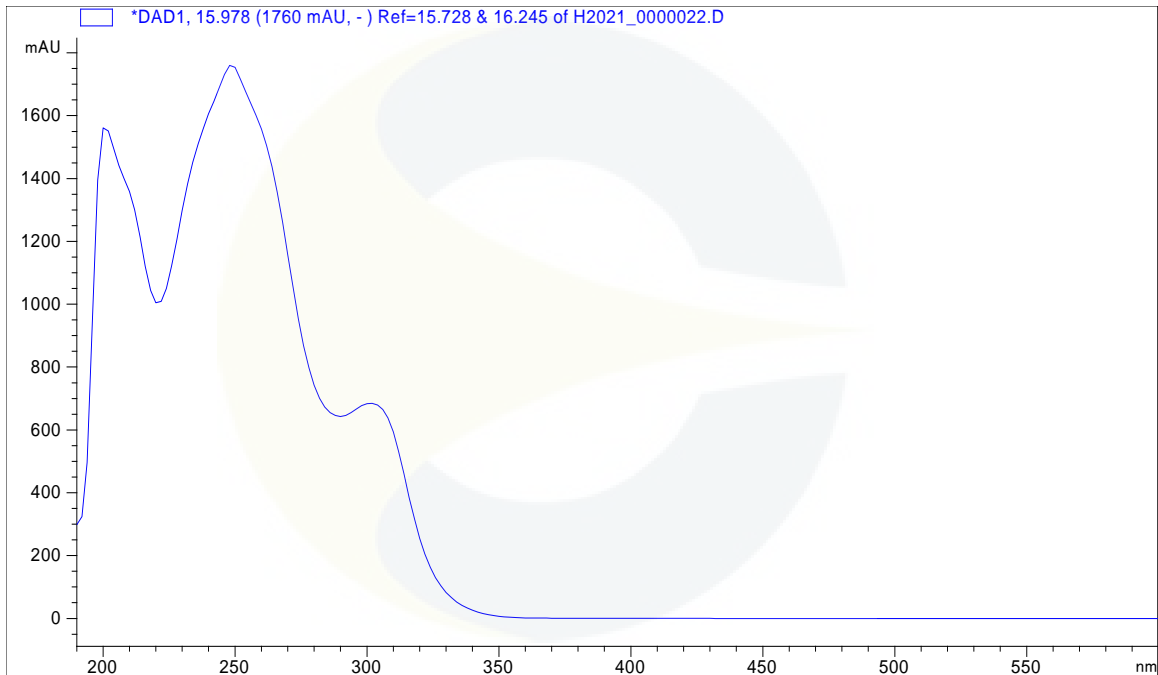


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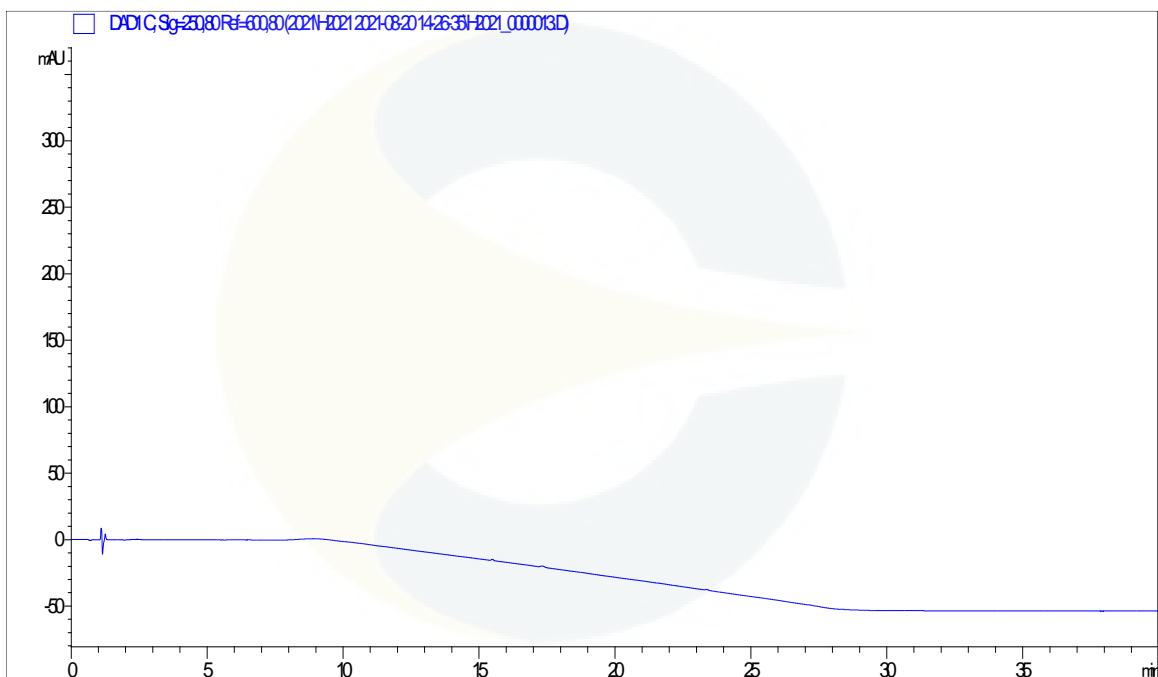
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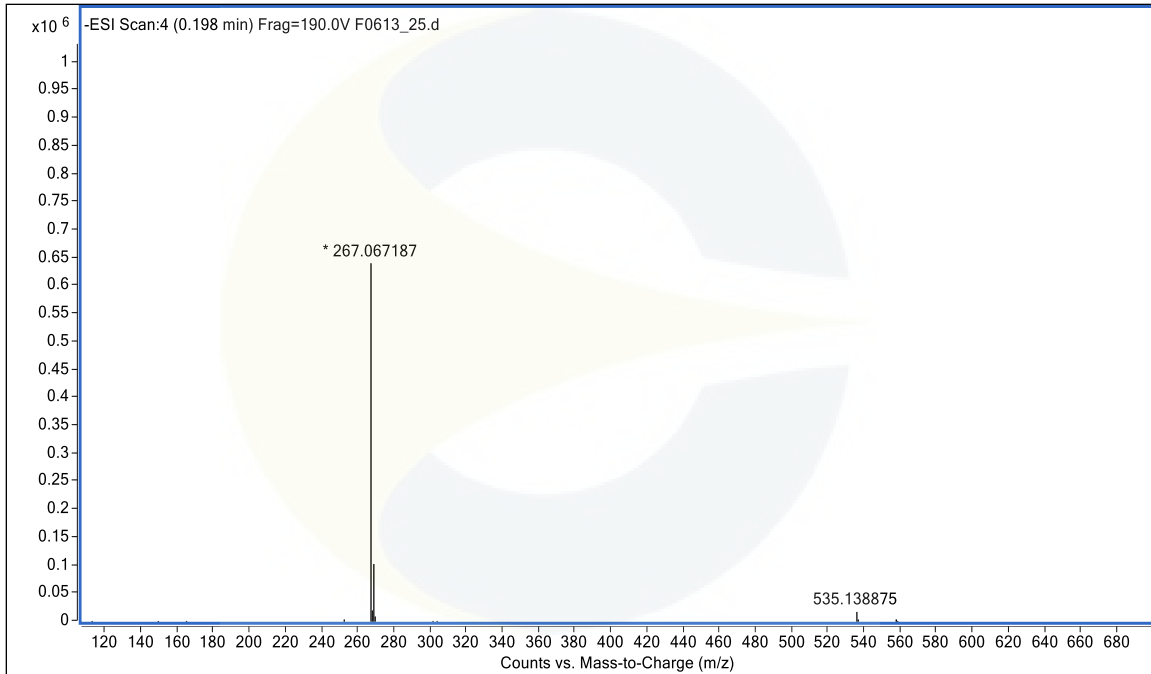
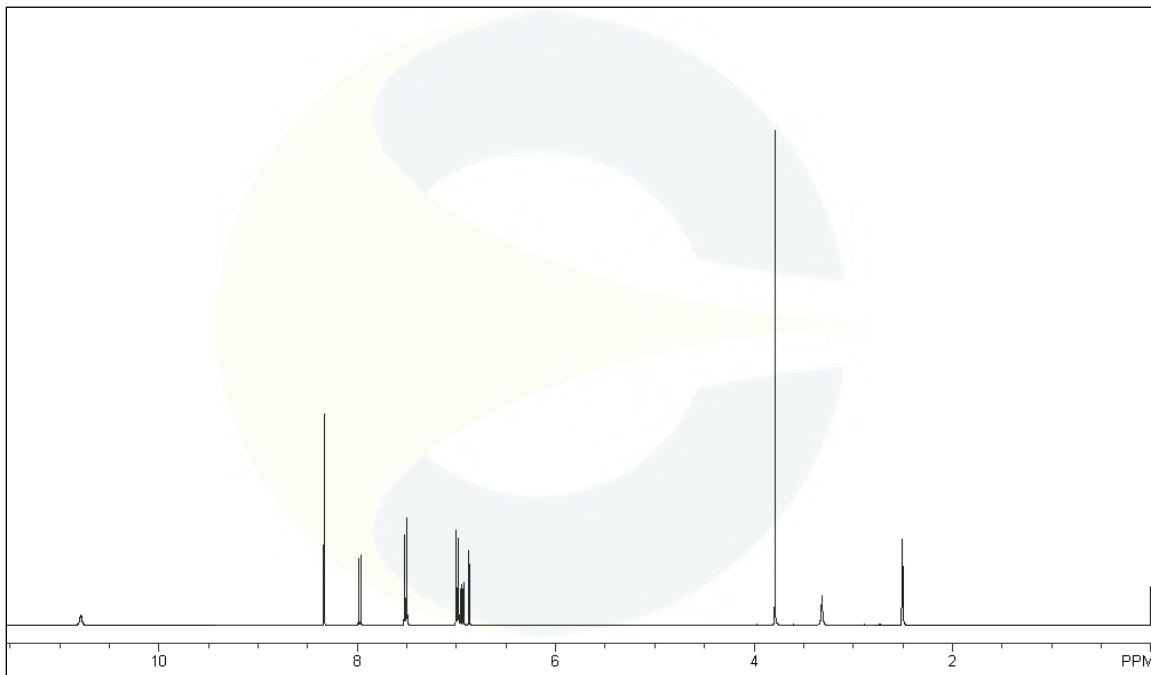
UV SPECTRUM AT RT = 16.0 MINUTES



HPLC CHROMATOGRAM OF DILUENT BLANK

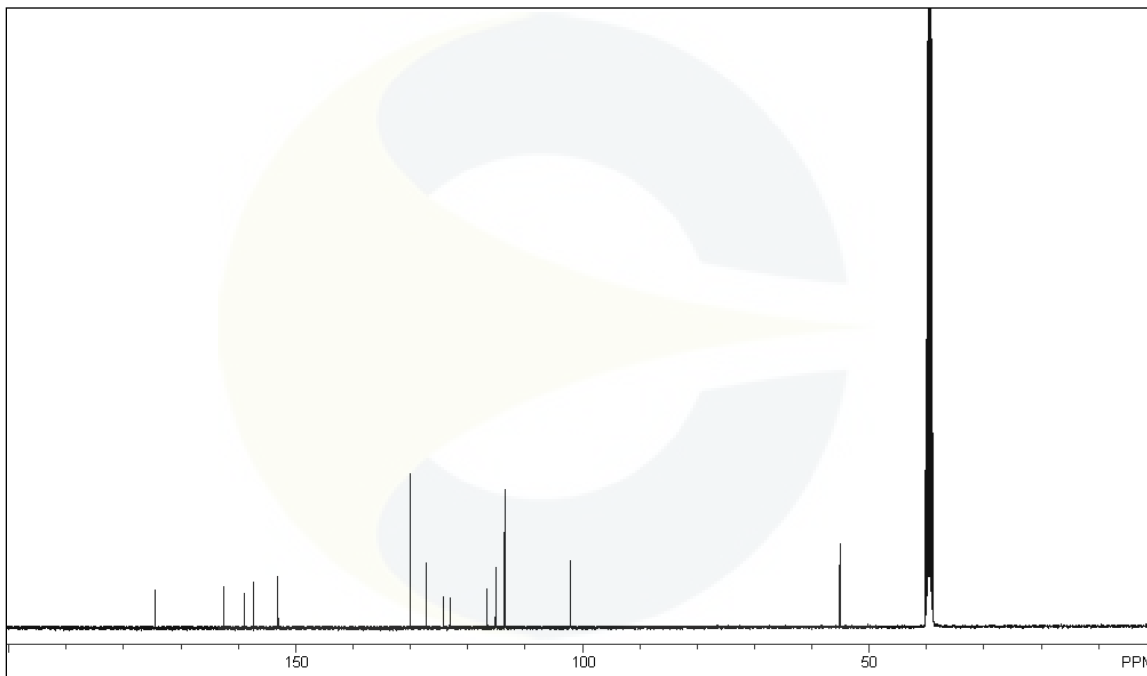


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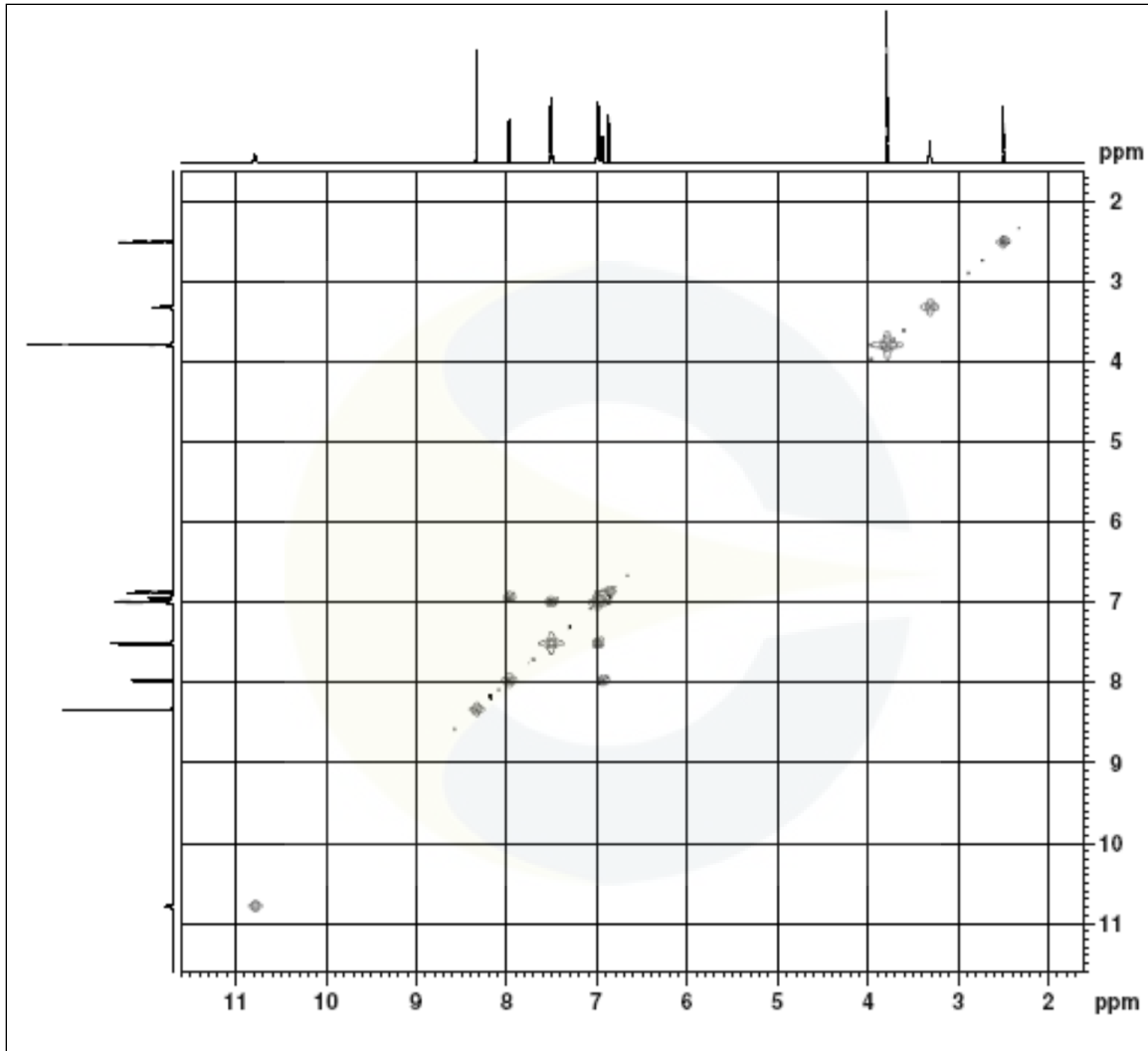
MASS SPECTRUM OF FORMONONETIN (CDXA-13-3739)**¹H-NMR SPECTRUM OF FORMONONETIN (CDXA-13-3739) IN DMSO-d₆**

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¹³C-NMR SPECTRUM OF FORMONONETIN (CDXA-13-3739) IN DMSO-d₆



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COSY-NMR SPECTRUM OF FORMONONETIN (CDXA-13-3739) IN DMSO- d_6

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	06/12/2013	New report
01	10/08/2013	Updated product description
02	08/30/2017	Passed re-evaluation by HPLC, KF. Updated expiration date, chemical names, analytical conditions, chromatograms and results. Added RTECS number and removed melting point.
03	09/09/2021	Passed second re-evaluation by HPLC, KF, Updated expiration date, analytical conditions, chromatograms and results.

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