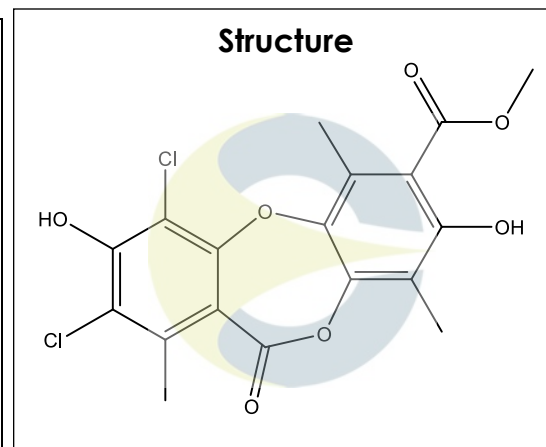


Certificate of Analysis
For Laboratory Use Only

| | |
|-----------------------|--------------------------|
| PRODUCT NAME | Leoidin |
| PART NUMBER | 00012117 |
| STANDARD TYPE | Analytical Standard (AS) |
| LOT NUMBER | 00012117-118 |
| REPORT NUMBER | CDXA-RSS-8439-00 |
| SAMPLE NUMBER | CDXP-18-01334 |
| DATE OF SAMPLE | 12/18/2018 |
| DATE OF REPORT | 01/15/2019 |



| | |
|------------------------------|--|
| CHEMICAL NAMES | 2,4-Dichloro-3, 8-dihydroxy-1,6,9-trimethyl-11-oxo-11H-dibenzo[b,e][1,4]-dioxepin-7-carboxylic acid methyl ester |
| CHEMICAL FORMULA | C ₁₈ H ₁₄ Cl ₂ O ₇ |
| MOLECULAR WEIGHT (MW) | 413.21 |
| CHEMICAL FAMILY | Lichen acids |
| CAS NUMBER | [105350-54-7] |
| EC#(EINECS) | 600-647-4 |
| RTECS | NA |

ANALYTICAL RESULTS

| TEST | METHOD | SPECIFICATION | RESULT |
|---------------|--------------------|---------------|--------------|
| HPLC | 99.1-04-1.0-000684 | NA | 88.8% |
| Mass Spectrum | 99.1-04-3.0-000126 | Conforms | Conforms |
| Appearance | NA | NA | White powder |

STORAGE CONDITIONS

| | |
|------------------------|-------------------------------------|
| STORAGE | Room Temperature in a dry place. |
| EXPIRATION DATE | 12/2023 under the above conditions. |

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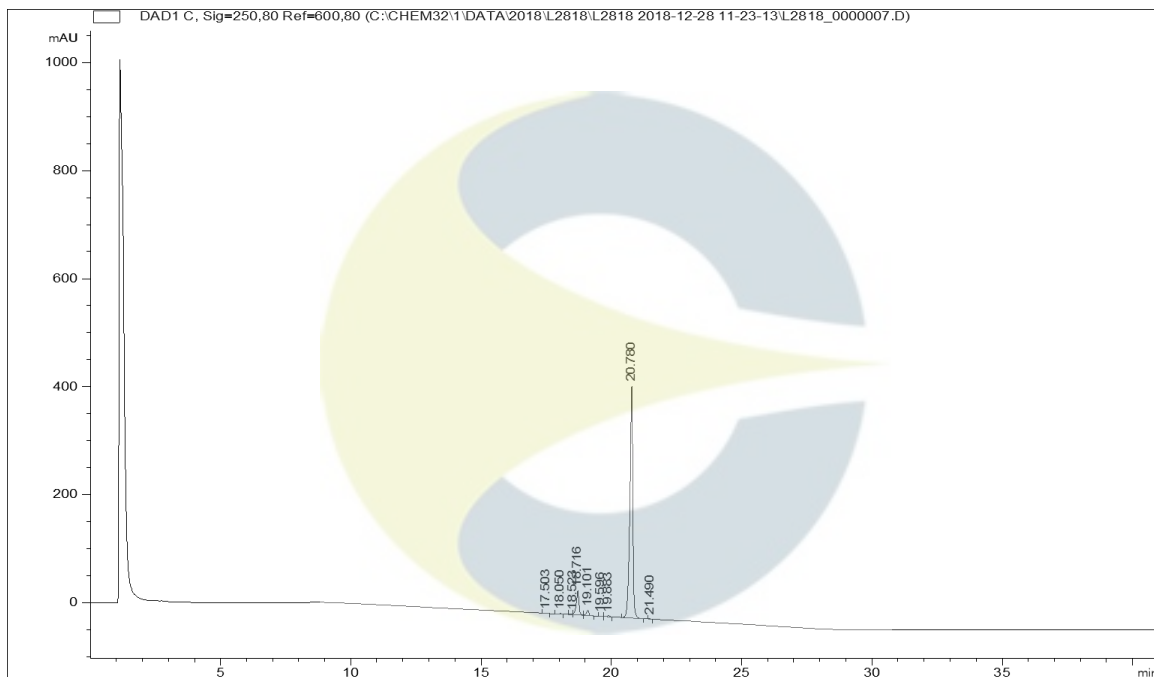
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ANALYTICAL CONDITIONS

| | |
|-----------------|--|
| INSTRUMENT | AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF |
| 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. | 0.5 µL |
| INJECTION CONC. | 1.1 mg/mL in DMSO |
| DETECTION | 250 ± 40 nm |

HPLC CHROMATOGRAM OF LEIODIN (CDXP-18-01334)

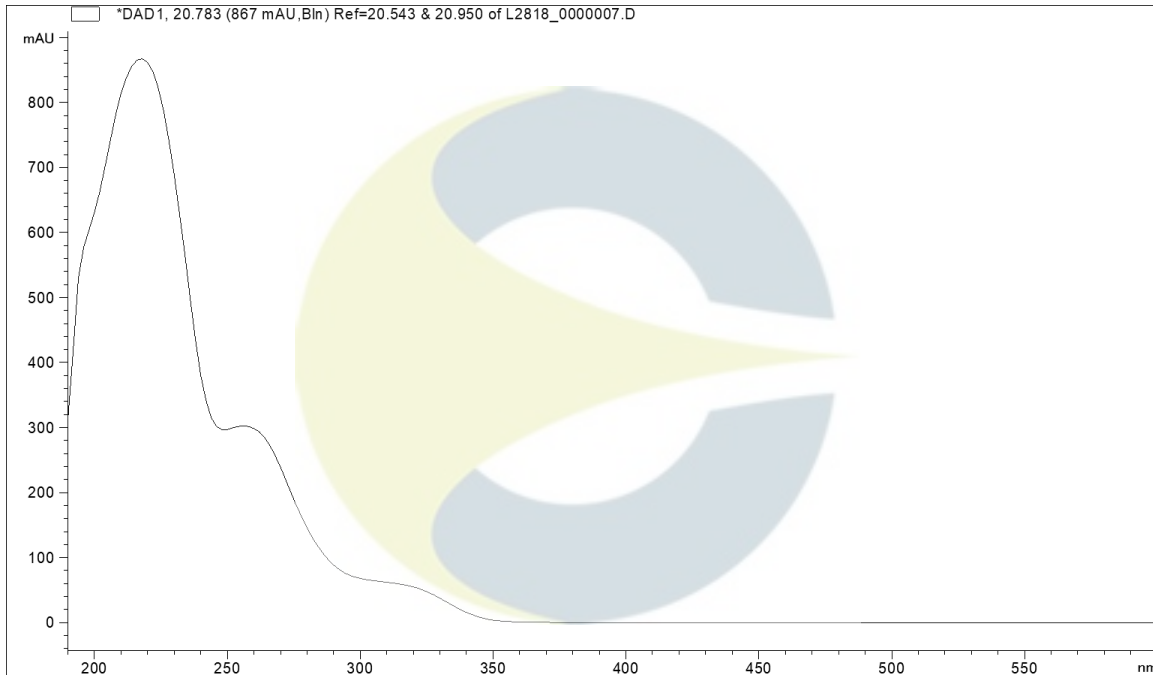


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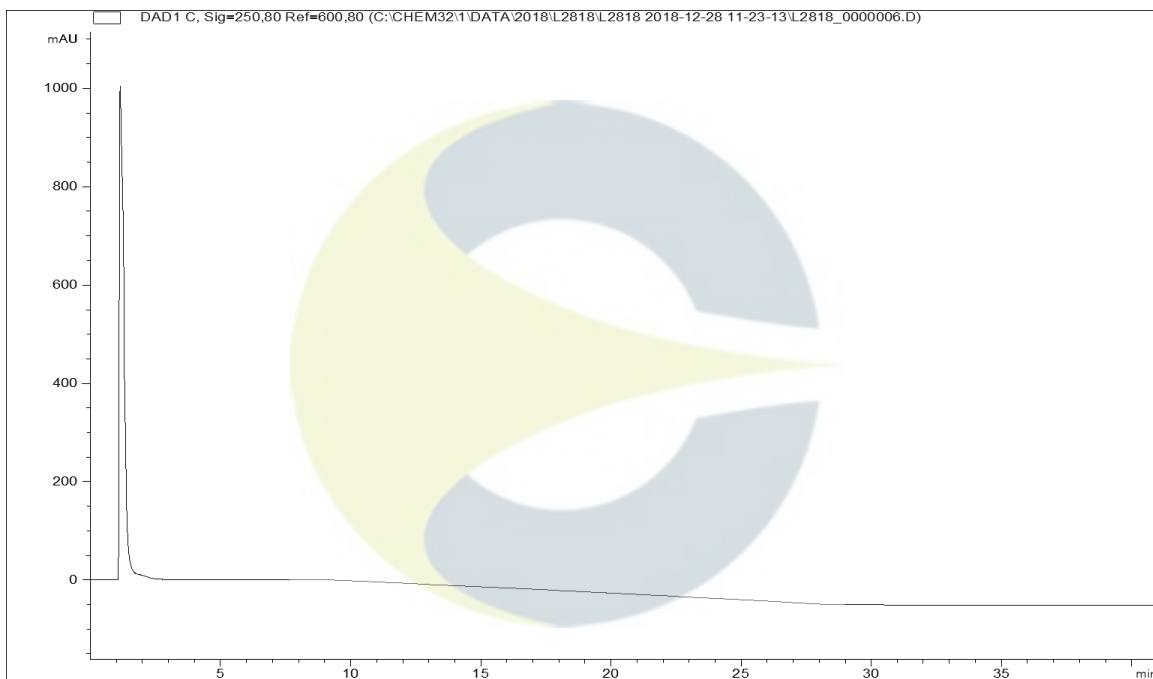
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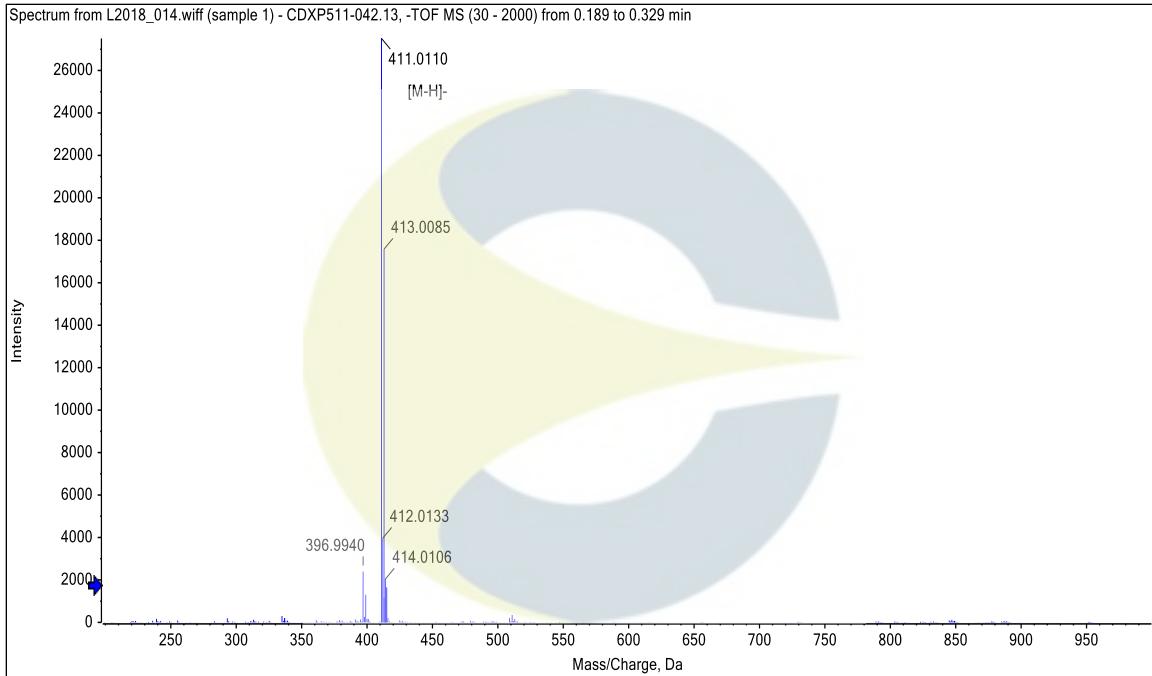
UV SPECTRUM AT RT = 20.8 MINUTES



HPLC CHROMATOGRAM OF DILUENT BLANK



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MASS SPECTRUM OF LEIDIN (CDXP-18-01334)

REVISION HISTORY

| <u>Revision History</u> | <u>Date of Revision</u> | <u>Document/Changes</u> |
|-------------------------|-------------------------|-------------------------|
| 00 | 01/15/2019 | New report |

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