



# Certificate of Analysis

For Laboratory Use Only

| PRODUCT NAME          | Cryptotanshinone  | Churchurc                                |
|-----------------------|---|--|
| PART NUMBER           | 00020041  | Structure                                |
| STANDARD TYPE         | Primary (P)   |  |
| LOT NUMBER            | 00020041-101  |  |
| REPORT NUMBER         | CDXA-RSS-269-02   |  |
| SAMPLE NUMBER         | CDXA-04-0723  |  |
| DATE OF SAMPLE        | 11/18/2004  |  |
| DATE OF RE-EVALUATION | 10/14/2009 (1st); 06/04/2014 (2nd)<br>03/18/2019 (3rd)                  |  |
| DATE OF REPORT        | 04/11/2019  |  |
| CHEMICAL NAMES        | (1R)-1,2,6,7,8,9-Hexahydro-1,6,6-trime<br>Cryptotanshinon; Tanshinone C | ethyl-phenanthro(1,2-b)furan-10,11-dione |
| CHEMICAL FORMULA      | C19H20O3  |  |
| MOLECULAR WEIGHT (MW) | 296.36  |  |
| CHEMICAL FAMILY       | Diterpenes  |  |
| CAS NUMBER            | [35825-57-1]  |  |
| EC# (EINECS)          | 633-682-9   |  |
| RTECS                 | SF8282645   |  |
|                       |   |  |

## ANALYTICAL RESULTS

| TEST             | METHOD                   | SPECIFICATION         | RESULT                |
|------------------|--------------------------|-----------------------|-----------------------|
| Adjusted Purity  | NA                       | NA                    | 95.8%                 |
| HPLC             | 99.1-04-1.0-000684       | NA                    | 95.8%                 |
| NMR              | NA                       | Conforms to structure | Conforms to structure |
| Mass Spectrum    | Direct Infusion, ESI (+) | Conforms              | Conforms              |
| Residual Solvent | CDXA-AM-001-00           | NA                    | ND                    |
| Water            | 99.1-04-10.0-000094      | NA                    | ND                    |
| Appearance       | NA                       | NA                    | Orange powder         |

ADJUSTED PURITY: 95.8% IS BASED ON (100 - 0.0 SOLVENTS - 0.0 WATER) X 95.8% HPLC

## **STORAGE CONDITIONS**

**STORAGE** Room Temperature in a dry place.

**EXPIRATION DATE** 03/2024 under the above conditions.

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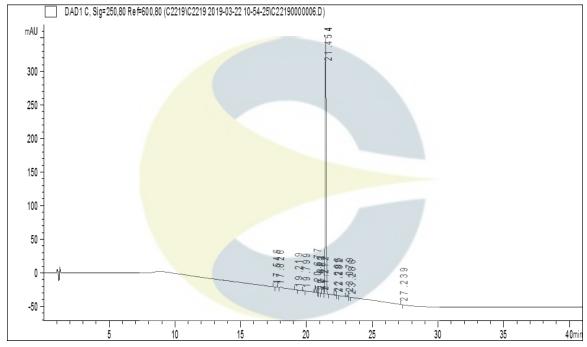
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## ANALYTICAL CONDITIONS

| INSTRUMENT      | AGILENT 1260 HPLC UV-VIS (DAD), FINNIGAN LCQ-DECA   |  |
|-----------------|---|--|
| 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;<br>Isocratic 5% B for 5 minutes, then increasing to 95% B over 20 minutes. Hold at<br>95% B for 15 minutes. |  |
| COLUMN TEMP.    | 0° C  |  |
| FLOW RATE       | 0.4 mL/minute   |  |
| INJECTION VOL.  | 0.2 μL  |  |
| INJECTION CONC. | 1.1 mg/mL in Methanol   |  |
| DETECTION       | $250 \pm 40 \text{ nm}$   |  |

## HPLC CHROMATOGRAM OF CRYPTOTANSHINONE (CDXA-04-0723)



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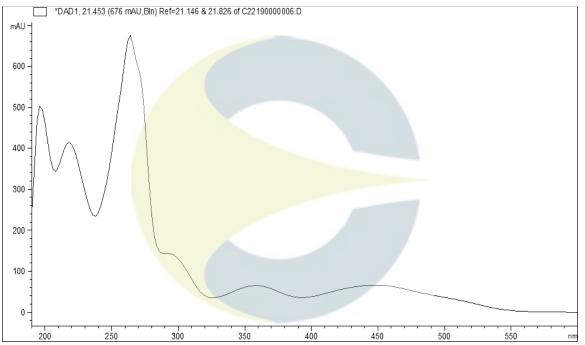
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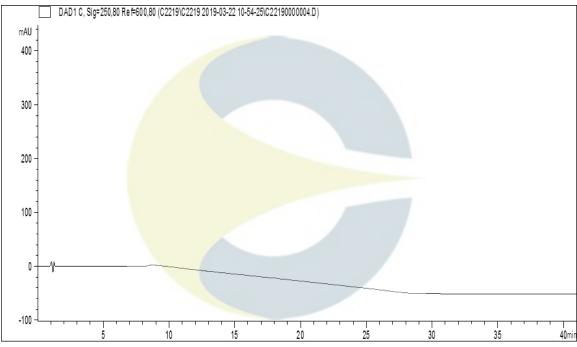


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### UV SPECTRUM AT RT = 21.5 MINUTES



## HPLC CHROMATOGRAM OF DILUENT BLANK



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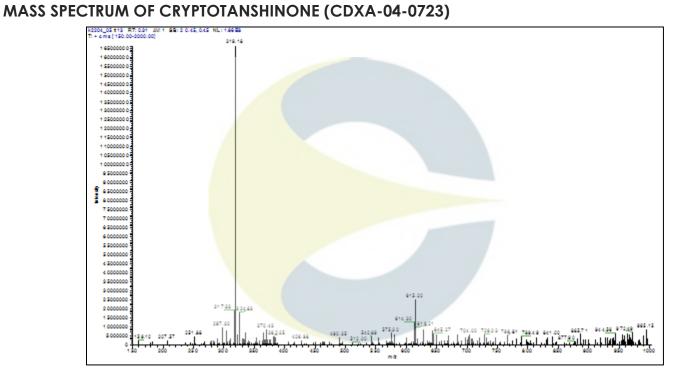


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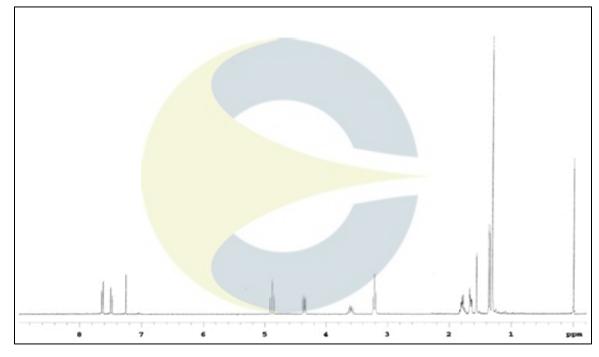
**SPECIMEN** 

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## <sup>1</sup>H-NMR SPECTRUM OF CRYPTOTANSHINONE (CDXA-04-0723) IN CDCI<sub>3</sub>



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#### **REVISION HISTORY**

| <u>Revision History</u> | Date of Revision | Document/Changes   |
|-------------------------|------------------|--|
| 00                      | 10/19/2009       | New report and first re-evaluation.  |
| 01                      | 06/20/2014       | Material passed second re-evaluation. Updated expiration date.   |
| 02                      | 04/11/2019       | Material passed third re-evaluation. Updated expiration date, chemical names, chromatograms, UV spectrum, and purity. Removed melting point. Added EC and RTECS identifiers. |

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