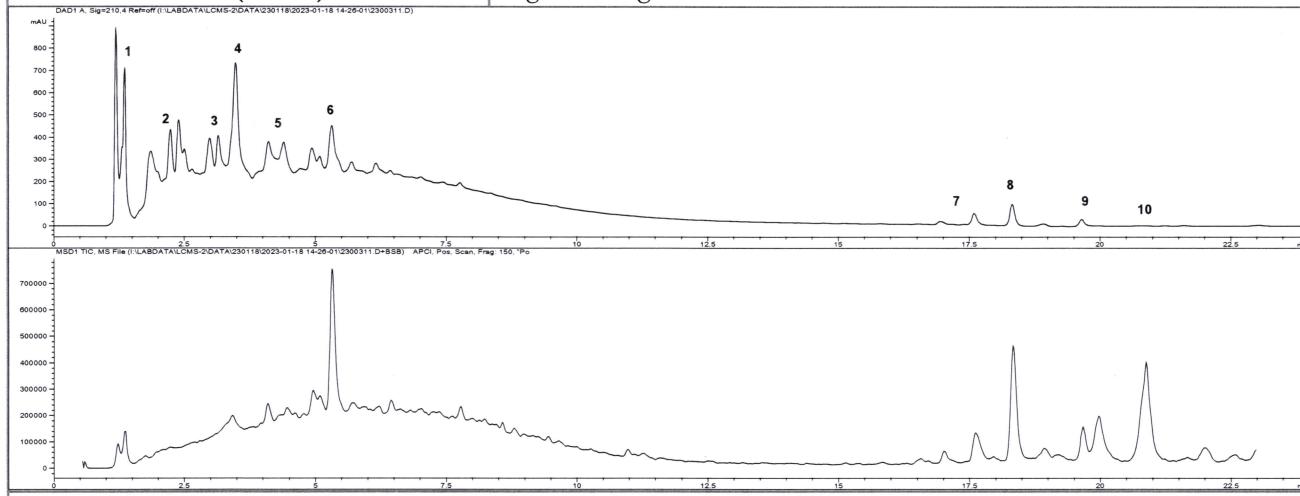


**CERTIFICATE OF ANALYSIS**

<b>SAMPLE NAME</b>	Organic Chaga Mushroom Powder - Evolution Botanicals		
<b>FORM</b>	Powder		
<b>CUSTOMER NAME</b>	Evolution Botanicals Australia PTY LTD		
<b>CERTIFICATION DATE</b>	08 February 2023		
<b>CUSTOMER REFERENCE</b>	Batch Evolution Botanicals 079 BBD 12/12/24		
<b>ARL JOB #</b>	A230089	<b>LAB REF. #</b>	ARL2300311
<b>ANALYSIS</b>	LCMS Compositional - Level 2	<b>METHOD</b>	ARL-TM125
<b>TEST PROFILE (below)</b>	Organic Chaga Mushroom Powder - Evolution Botanicals Batch		


**TABLE 1. PEAK IDENTIFICATION**

Peak #	RT (min)	Fragment ions [M+H]	Tentative ID (MW)
1	1.2 - 1.4	116, 124, 136, 268, 252, 312	mixed peaks - polysaccharides, amino acids, nucleotides
2	1.9, 2.2, 2.4	181	phenolic or gallic acid derivatives, protocatechuic acid,
3	3.0, 3.2	355, 395	benzoic acid derivative - vanillic acid, phenolic
4	3.5	451, 469	phenolic or gallic acid derivative
5	4.1, 4.4	530, 409	lignan or phenolic, phenolic acid derivative
6	4.9, 5.0, 5.3	451, 611, 393, 423	phenolic, phenolic acid derivatives
7	17.0, 17.6	439	triterpene - betulin
8	18.3	229, 247, 327, 407, 425	steroidal triterpene - inotodiol
9	19.7, 20.0	405, 423, 534, 696, 714	steroidal triterpene - 3-hydroxylanosta-8,24-dien-21-al, cerebroside
10	20.9	548, 710, 726	fungal cerebrosides

**COMMENTS**

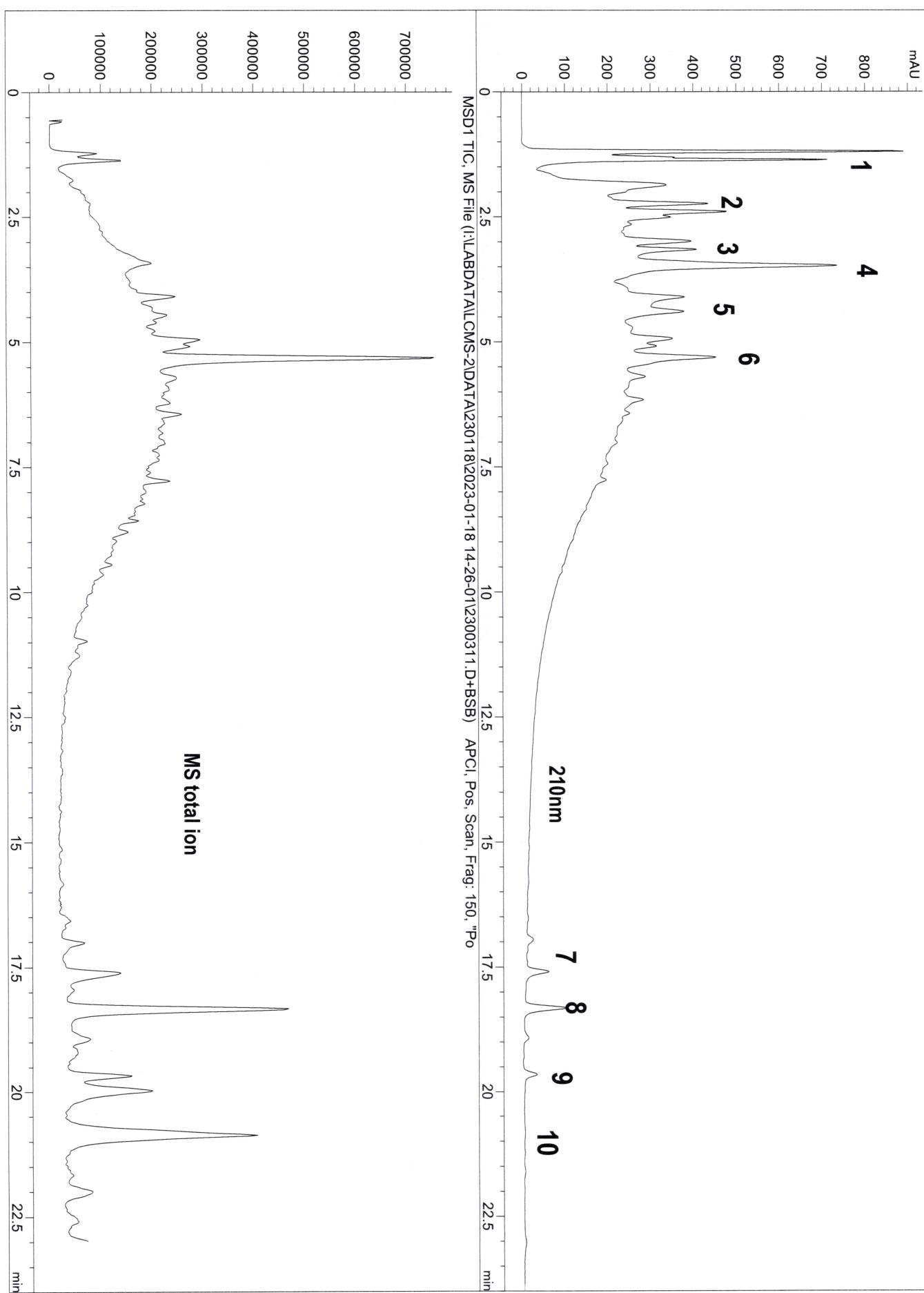
The HPLC-MS profile of the test sample is given above with some major components from the plant extracts indicated. The peaks identified are primarily a range of phenolic derivatives including benzoic acid derivatives protocatechuic acid and vanillic acid, phenolic acid derivatives, characteristic steroidal triterpenes and triterpenes as previously reported in *Inonotus obliquus*, with possible fungal cerebrosides eluting from ~20 min. Spectral data in support of peak identification is attached.

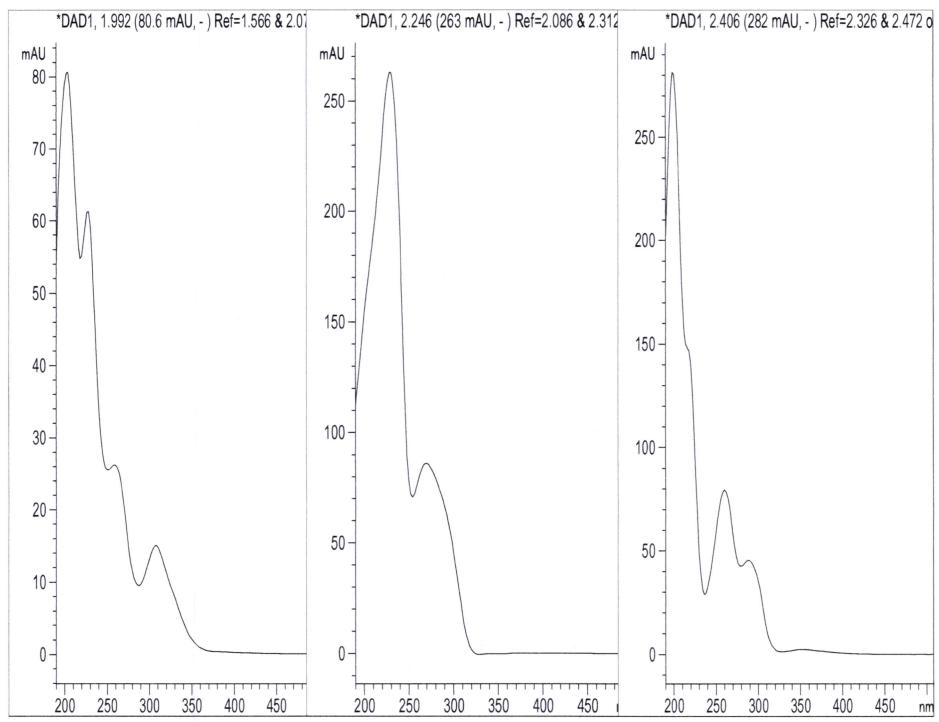
**QC AUTHORISED**
**Reference:** Dictionary of Natural Products, CRC Press, 2020

*Phenolic compounds from the fungus Inonotus obliquus and their antioxidant properties*, **J. Antibiotics** (2016) 69, 108–110

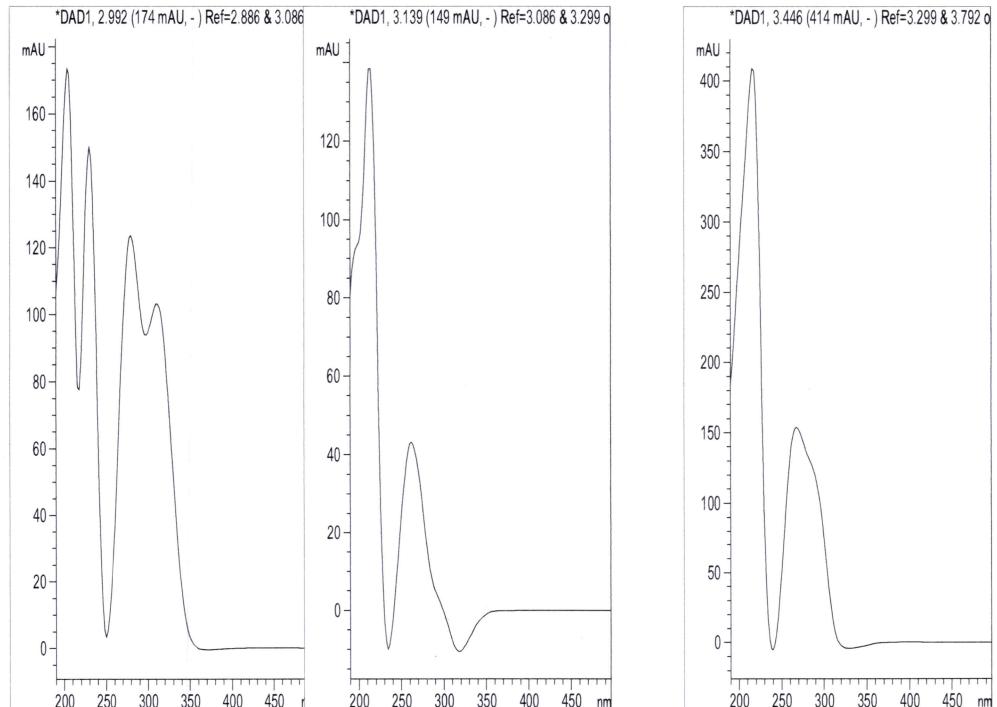
*Quality control and evaluation of Inonotus obliquus using HPLC method with novel marker compounds*, **J. Analytical Science and Technology** (2020) 11:52

Current Chromatogram(s)  
DAD1A, Sig=210,4 Ref=off (I:\LABDATA\LCMS-2\DATA\230118\2023-01-18 14:26-01\2300311.D)

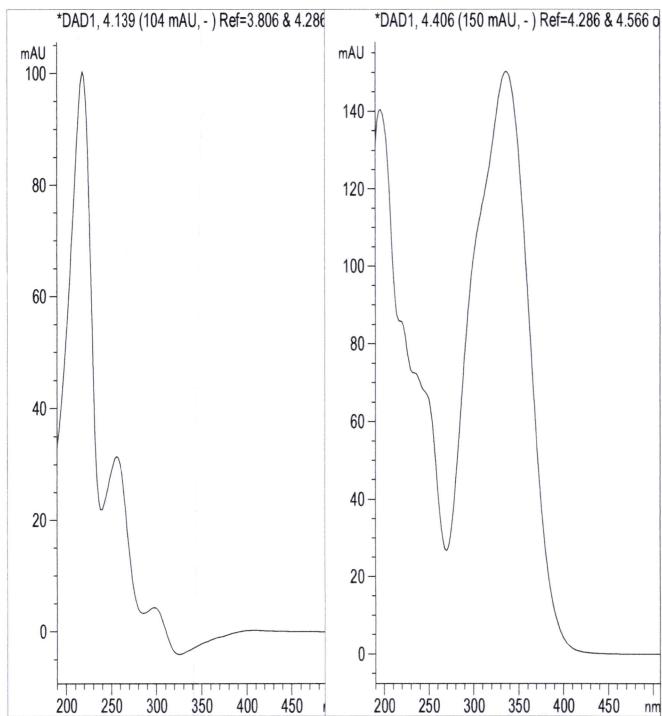




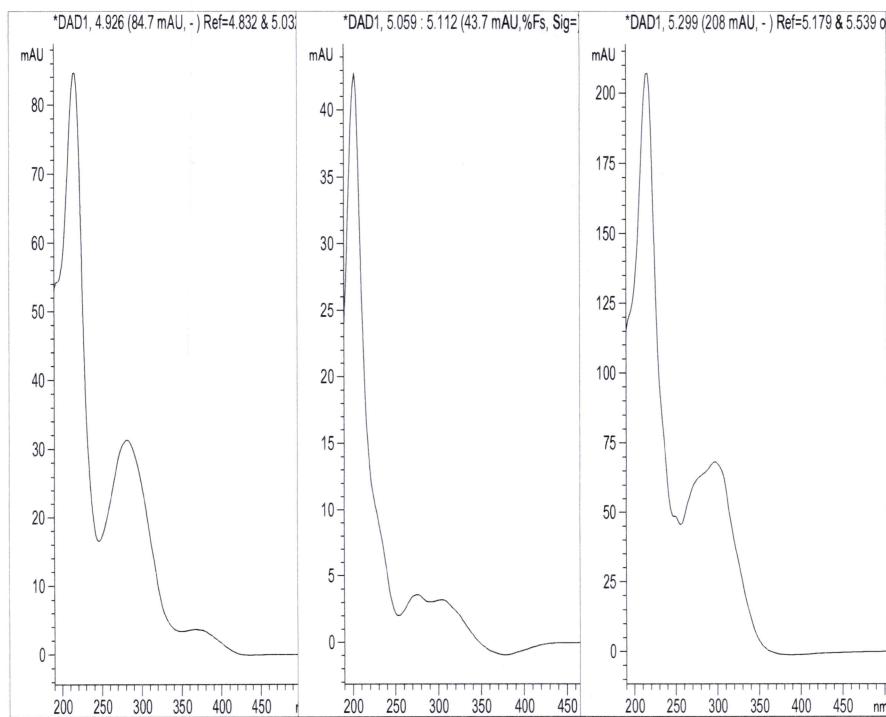
**Figure 1.** UV-Vis spectra of peaks #2 identified as phenolic derivatives including protocatechuic acid based on the characteristic third spectra



**Figure 2.** UV-Vis spectra of peaks #3 or #4 identified as vanillic acid and phenolic derivatives based on characteristic spectra



**Figure 3.** UV-Vis spectra of peaks #5 identified as phenolic possible lignan derivative and a phenolic acid based on characteristic spectra



**Figure 4.** UV-Vis spectra of peaks #6 identified as phenolic and phenolic acid derivatives based on characteristic spectra

