Southern Cross University

ARL Analytical Research Laboratory

+61 2 6622 3211 | scu.edu.au/arl | T Block Level 3, Military Road, Lismore NSW 2480 Australia | ABN: 41995 651 524 | TGA: MI-01122004-LI-000264-1

CERTIFICATE OF ANALYSIS

SAMPLE NAME	Organic Reishi Powder - Evolution Botanicals		
FORM	Powder		
CUSTOMER NAME	Evolution Botanicals Australia PTY LTD		
CERTIFICATION DATE	11 April 2023		
CUSTOMER REFERENCE	Batch Evolution Botanicals		
ARL JOB #	A230611	**LAB REF. #**	ARL2301976
ANALYSIS	Herb Authentication	**METHOD**	ARL-TM125
TEST PROFILE (below)	Organic Reishi Powder - Evolution Botanicals Batch Evolution		

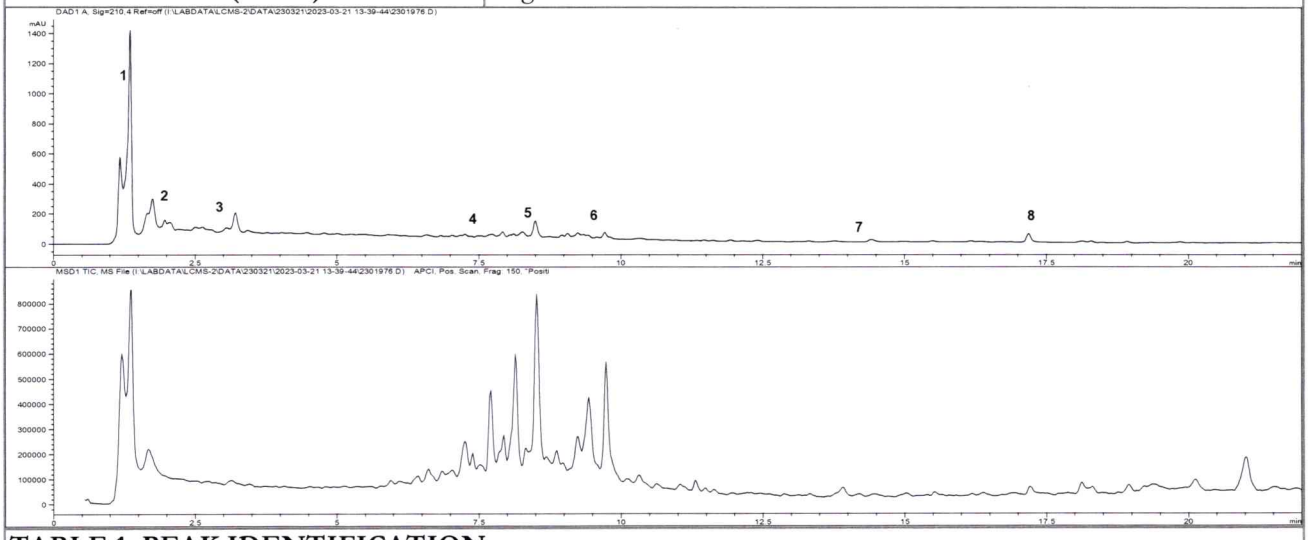


TABLE 1. PEAK IDENTIFICATION

Peak #	RT (min)	Fragment ions [M+H]	Tentative ID (MW)
1	1.2 - 1.4	126, 162, 204, 294, 360, 136, 268	mixed peaks - polysaccharides, nuceloside -
2	1.6 - 2.1	126, 268, 127	nuceloside - adenosine, maltol derivative - hydroxy-methyl furfural
3	2.5 - 3.2	344, 377	phenolic derivatives
4	7.2 - 7.7	573, 589, 531	lanostane triterpene derivatives - ganoderic acids
5	7.9 - 8.5	497, 515, 517, 573	lanostane triterpene derivatives - ganoderic acids
6	9.0 - 9.7	457, 497, 513, 571	lanostane triterpene derivatives - ganoderic acids
7	14.0, 14.4	457, 469	lanostane triterpene derivatives - ganoderic acids
8	17.2	953	fatty acid derivative

COMMENTS

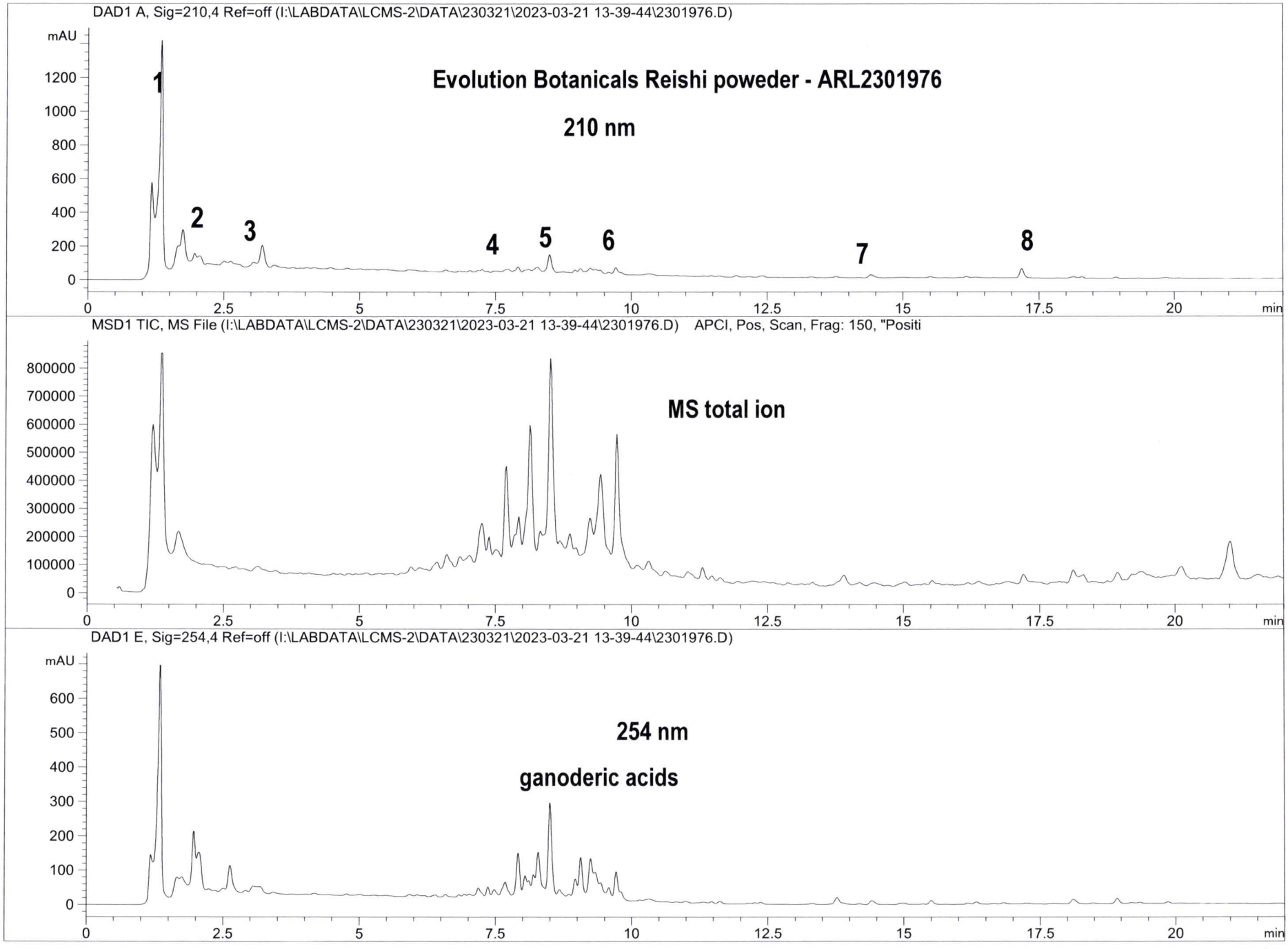
The HPLC-MS profile of the test sample is given above with some major components from the plant extracts indicated. The main peaks identified are consitent with a large range of the lanostane triterpene poly-hydroxy and ketone derivatives, identified as ganoderic acids, previously reported and characteristic of *Ganoderma lucidum* and other spp. With some phenolic, nuceloside and polysaccharides also present. Spectral data in support of peak identification is attached.

QC AUTHORISED

Reference: Dictionary of Natural Products, CRC Press, 2020

Screening and Analysis of the Marker Components in Ganoderma lucidum by HPLC and HPLC-MSn with the Aid of Chemometrics, **Molecules** 2017, 22, 584

Current Chromatogram(s)



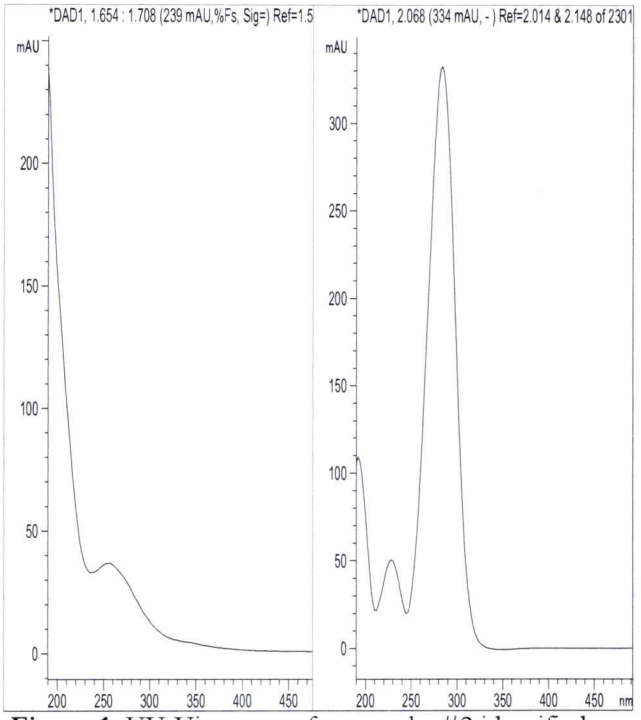


Figure 1. UV-Vis spectra from peaks #2 identified as nuceloside adenosine and maltol derivative hydroxy-methyl furfural based on characteristic UV-Vis and MS spectra

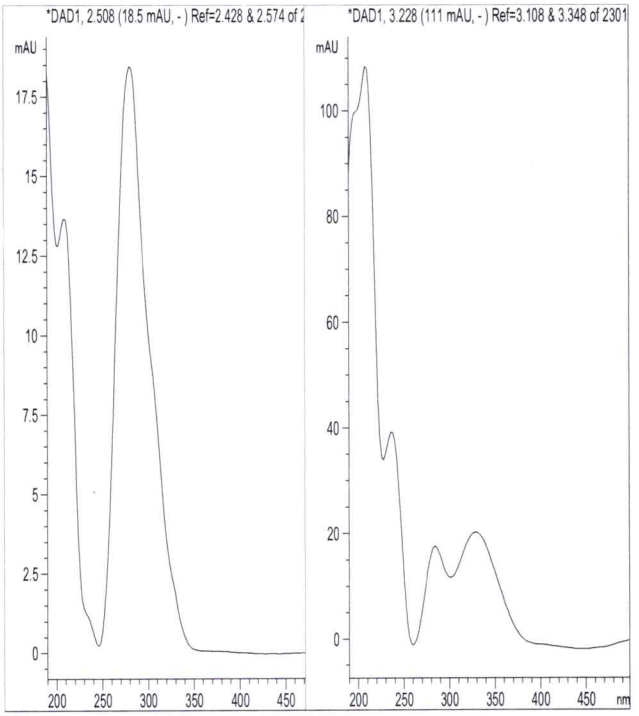


Figure 2. UV-Vis spectra from peaks #3 identified as likely phenolic derivatives based on characteristic spectra and elution time

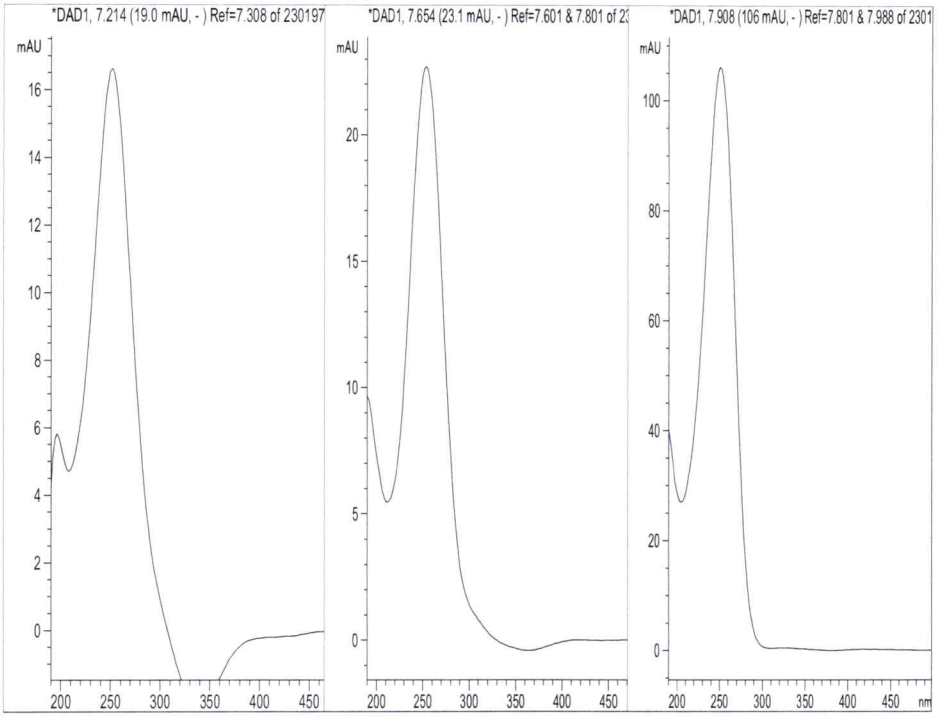


Figure 3. UV-Vis spectra from peaks #4 identified as lanostane triterpene derivatives, ganoderic acids, based on characteristic UV-Vis and MS spectra with absorption maxima ~250

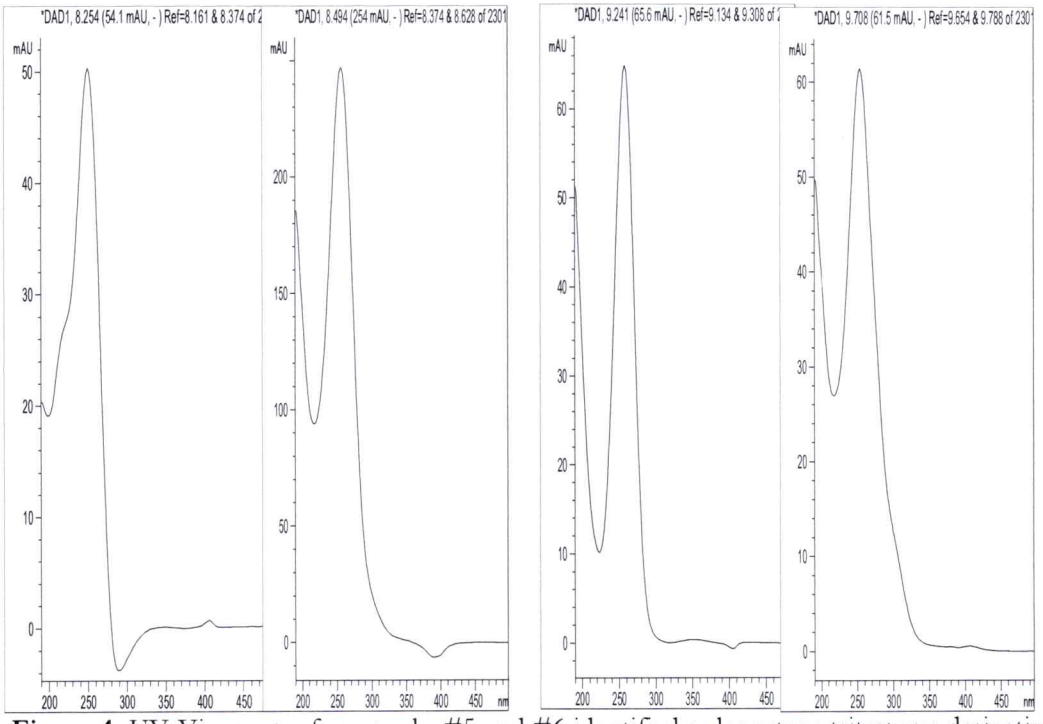


Figure 4. UV-Vis spectra from peaks #5 and #6 identified as lanostane triterpene derivatives, ganoderic acids, based on characteristic UV-Vis and MS spectra with absorption maxima ~250 to 260 nm