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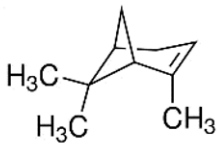
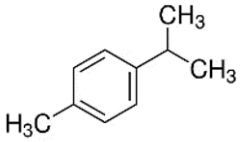
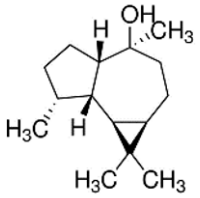
Accredited testing service for kānuka oil

- A report prepared by Plant and Food Research in 2022 identified three terpenoid molecules as characteristic of kānuka oil

α-Pinene	p-Cymene	Viridiflorol
		

- A GC-MS[1] method has been developed and validated to measure these compounds at ALS-Analytica. The method has been accredited to the ISO17025 standard by IANZ.
- The percentage by weight of each of the three components is measured (see example certificate on the next page).
- Results of the accredited test differ from commonly used "% area" methods, which are much simpler but give different results depending on the instrument used, over- or under-estimating the true levels.
- Please supply 10 mL of oil for analysis, sent in a well-sealed glass container, and include a sample submission form
- Make sure the sample has been taken from a well-mixed/homogenous batch. Oil distilled from different plants can vary a lot, so mixing the oil well before sampling is really important.

Interpretation of results

- Results will be reported as % w/w for the sample as received. For example, a result for α-pinene of 60% means that 100 grams of the oil contains 60 grams of α-pinene.
- Since results are reported in % w/w, they can be reliably compared to published data in the same units, and you can have confidence that results collected over time will be measured in a consistent and standardised fashion.
- The IANZ[2] logo on the certificate of analysis carries additional weight when presenting results to customers and regulators, and gives confidence that the testing has been performed to a high standard of quality, with suitable checks and controls in place to assure the accuracy of results.
- Currently there is limited information about the range of concentrations in kānuka oil, and your results will be used anonymously and only in an aggregated form, to provide more information about the range of components that are seen in kānuka oil from different parts of Aotearoa. This maintains confidentiality of your results, and at the same time increases understanding of the product for the benefit of the entire industry.
- In addition to the accredited results, a peak area report (also known as fingerprint report) will be provided, which gives a more complete picture of the components of the oil, although the numerical data presented may not be directly comparable to published data, or reports from other laboratories.

For more information

- Please contact David Speed, Phone 07 974 4740 or email David.Speed@alsglobal.com

[1] Gas Chromatography is used to separate out components of the sample, which are identified and measured using Mass Spectrometry.
[2] International Accreditation New Zealand

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Example of an accredited certificate of analysis

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Ruakura Research Centre

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Phone +64 07 9744740
Email ALSFood.Hamilton@alsglobal.com

Certificate of Analysis

Client Address 1 Address 2 Attention: Phone: 021 XXXXXX	Lab Reference: 24- Submitted by: Date Received: Date Completed: Order Number:

Results Summary

Terpenoids in kanuka oil

Laboratory ID	Sample ID	Alpha pinene	p-Cymene	Viridiflorol
	Units	*% w/w*	*% w/w*	*% w/w*
	Reporting Limit	*0.7*	*0.7*	*0.7*

Report comments

Samples were received in good condition, unless otherwise noted.

Method Summary

Terpenoids in kanuka oil

Oils are dissolved and diluted for analysis by GC-MS. Samples are quantified against reference standard calibration curves, using internal standardisation. Quality controls include analysis of blanks, replicates and spiked samples. The method is fully validated and accredited to ISO17025 standard by IANZ.

Report approver:

David Speed, Ph.D.
R&D Manager

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.
This test report shall not be reproduced except in full, without the written permission of ALS Food NZ.

ACCREDITED IANZ TESTING LABORATORY

Report ID: 24-XXXXX-K-TERP_IANZ-R00 **Page** 1 of 1 **Report Date** 28/11/2024

Additional GCMS fingerprint report (partial report shown, results are not accredited)

Laboratory ID	Sample ID	
Retention time	**Name**	**%area**
3.14	Methyl propanoic acid	
3.19	Unknown	
3.42	Pentanol	
3.48	Unknown	
3.83	Diisopropyl ketone	
4.02	Unknown	
4.18	Unknown	
4.39	Unknown	
4.81	Butanoic acid/furfural	
4.99	Hexanoic acid	
5.08	Unknown	
5.16	Hexenol	
5.44	Unknown	
5.5	Alpha pinene	
7.79	Ethyl tridecanone	
8.05	Benzaldehyde	
8.56	para-cymene