

APPLICATIONS



Analysis of 33 Primary and Secondary Terpenes Found in Cannabis by GC-FID

Matthew Trass, Tim Anderson, and Scott Krepich
Phenomenex, Inc., 411 Madrid Ave., Torrance, CA 90501 USA

Overview

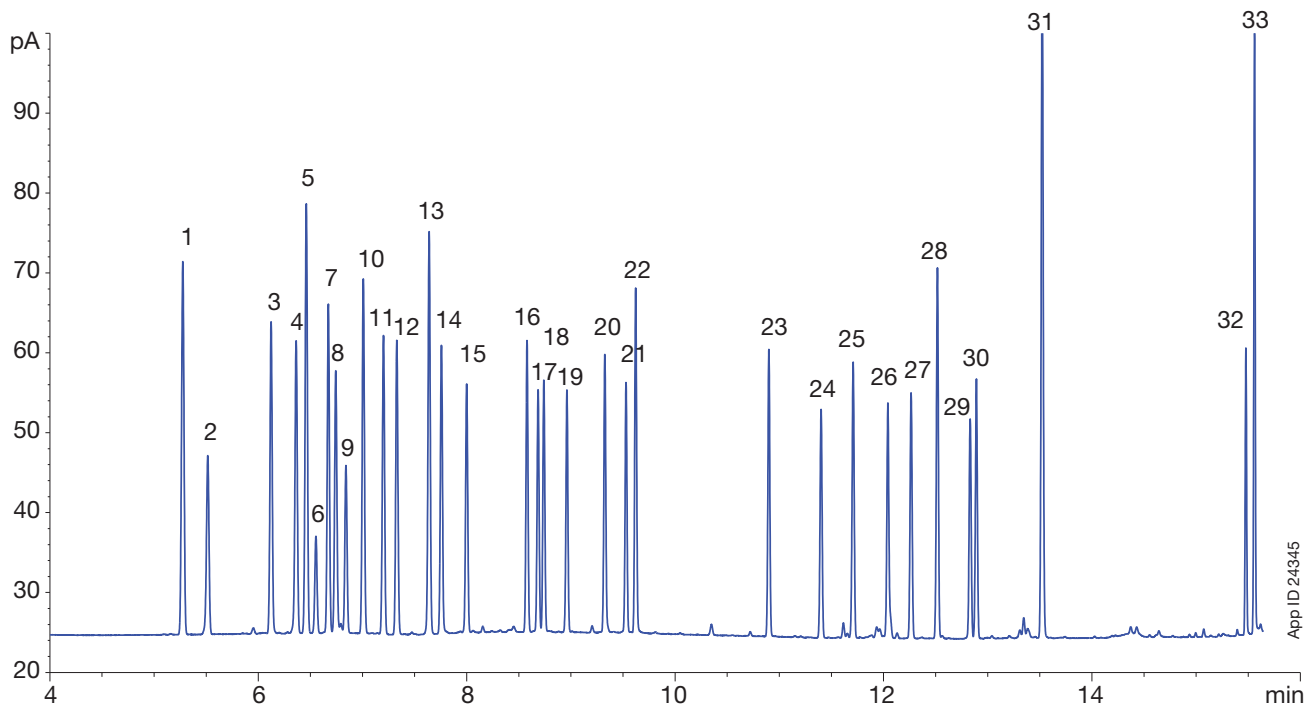
Terpenes are a diverse class of organic compounds found in many plants and generally have a strong odor. They are typically used in fragrances, essential oils, and for medicinal purposes. There are over 100 terpenes found in cannabis. Developed is a GC-FID method with excellent resolution and peak-shape for 33 primary and secondary terpenes found in cannabis. The selectivity and high temperature limits of the ZebtronTM ZB-5PLUS allows for great resolution of key terpenes and high bake out for the removal of low volatile matrix contaminants that may be present.

GC-FID Conditions

Column: ZB-5PLUSSM
Dimension: 20 m x 0.18 mm x 0.36 μm
Part No.: 7FD-G032-53
Guard: 5 m Z-GuardSM (7AD-G000-00-G20)
Injection: Split 20:1 @ 250 °C, 1 μL
Recommended Liner: Zebtron Plus Single Taper Z-LinerSM
Liner Part No.: AG2-0A13-01
Carrier Gas: Helium @ 1.9 mL/min
Oven Program: 35 °C to 105 °C @ 10 °C/min to 205 °C @ 15 °C/min to 360 °C @ 35 °C/min for 1.9 min
Detector : FID @ 340 °C

Sample: Terpenes are 50-100 ppm in acetonitrile

- | | | |
|-------------------|----------------------|-------------------------|
| 1. α-Pinene | 12. Sabinine hydrate | 23. Geranyl acetate |
| 2. Camphene | 13. Terpeneolene | 24. Trans-Caryophyllene |
| 3. Myrcene | 14. Linalool | 25. α-Humulene |
| 4. α-Phellandrene | 15. Fenchol | 26. Valencene |
| 5. 3-Carene | 16. Isoborneol | 27. Nerolidol-1 |
| 6. α-Terpinene | 17. Borneol | 28. Nerolidol-2 |
| 7. p-Cymene | 18. Menthol | 29. Caryophyllene oxide |
| 8. Limonene | 19. α-Terpineol | 30. Guaiol |
| 9. Ocimene-1 | 20. Citronellol | 31. α-Bisabolol |
| 10. Ocimene-2 | 21. Pulegone | 32. Phytol-1 |
| 11. γ-Terpinene | 22. Geraniol | 33. Phytol-2 |



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Ordering Information

Zebtron ZB-5PLUSSM GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
10-Meter			
0.18	0.18	-60 to 360/370	7CD-G032-08
12-Meter			
0.20	0.33	-60 to 360/370	7DE-G032-14
15-Meter			
0.25	0.25	-60 to 360/370	7EG-G032-11
20-Meter			
0.18	0.36	-60 to 360/370	7FD-G032-53
30-Meter			
0.25	0.25	-60 to 360/370	7HG-G032-11
0.25	0.50	-60 to 360/370	7HG-G032-17
0.25	1.00	-60 to 360/370	7HG-G032-22
0.32	0.25	-60 to 360/370	7HM-G032-11
0.32	0.50	-60 to 360/370	7HM-G032-17
60-Meter			
0.25	0.25	-60 to 360/370	7KG-G032-11

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., 7HG-G032-11-B. Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

Australia

t: +61 (0)2-9428-6444
f: +61 (0)2-9428-6445
auinfo@phenomenex.com

Austria

t: +43 (0)1-319-1301
f: +43 (0)1-319-1300
anfrage@phenomenex.com

Belgium

t: +32 (0)2 503 4015 (French)
t: +32 (0)2 511 8666 (Dutch)
f: +31 (0)30-2383749
beinfo@phenomenex.com

Canada

t: +1 (800) 543-3681
f: +1 (310) 328-7768
info@phenomenex.com

China

t: +86 400-606-8099
f: +86 (0)22 2532-1033
phen@agela.com

Denmark

t: +45 4824 8048
f: +45 4810 6265
nordicinfo@phenomenex.com

Finland

t: +358 (0)9 4789 0063
f: +45 4810 6265
nordicinfo@phenomenex.com

France

t: +33 (0)1 30 09 21 10
f: +33 (0)1 30 09 21 11
franceinfo@phenomenex.com

Germany

t: +49 (0)6021-58830-0
f: +49 (0)6021-58830-11
anfrage@phenomenex.com

India

t: +91 (0)40-3012 2400
f: +91 (0)40-3012 2411
indiainfo@phenomenex.com

Ireland

t: +353 (0)1 247 5405
f: +44 1625-501796
eireinfo@phenomenex.com

Italy

t: +39 051 6327511
f: +39 051 6327555
italiainfo@phenomenex.com

Luxembourg

t: +31 (0)30-2418700
f: +31 (0)30-2383749
nlinfo@phenomenex.com

Mexico

t: 01-800-844-5226
f: 001-310-328-7768
tecnicomx@phenomenex.com

The Netherlands

t: +31 (0)30-2418700
f: +31 (0)30-2383749
nlinfo@phenomenex.com

New Zealand

t: +64 (0)9-4780951
f: +64 (0)9-4780952
nzinfo@phenomenex.com

Norway

t: +47 810 02 005
f: +45 4810 6265
nordicinfo@phenomenex.com

Puerto Rico

t: +1 (800) 541-HPLC
f: +1 (310) 328-7768
info@phenomenex.com

Spain

t: +34 91-413-8613
f: +34 91-413-2290
espinfo@phenomenex.com

Sweden

t: +46 (0)8 611 6950
f: +45 4810 6265
nordicinfo@phenomenex.com

United Kingdom

t: +44 (0)1625-501367
f: +44 (0)1625-501796
ukinfo@phenomenex.com

USA

t: +1 (310) 212-0555
f: +1 (310) 328-7768
info@phenomenex.com

All other countries Corporate Office USA

t: +1 (310) 212-0555
f: +1 (310) 328-7768
info@phenomenex.com



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