GC Technical Note

GT043

GL Sciences Inc.

Simple Concentration and Analysis of the Fragrance Component in Baijiu - Using Sorptive Media MonoTrap

Using MonoTrap RCC18 (with activated carbon), a simple enrichment and analysis was made for the flavor components of Baijiu (Chinese liquor). It was also possible to collect aroma compounds from a high-matrix sample with an alcohol content of 40%. Agitation and collection, in which the sample comes into direct contact with the MonoTrap, is particularly useful for collecting components with high-boiling points. Plasticizer was found (peaks #27,28) presumably derived from the plastic cap due to stirring or agitation.

Preliminary processing procedure

Baijiu10 mL

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Collection (agitation)
One MonoTrap RCC18 — At room temperature for 3 h

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Solvent extraction — 200 µL of acetone 5 minutes of ultrasonic irradiation

↓

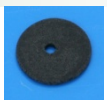
GC/MS

GC Conditions

System : GC - MS
Column : InertCap Pure-WAX
0.25 mm I.D. × 30 m df = 0.25 µm
Col. Temp. : 40 ˚C (5 min) - 4 ˚C/min - 250 ˚C
Carrier Gas : He 1 mL/min
Injection : Splitless
250 ˚C
Detector : MS Scan (*m/z*: 35-600)
Sample Size : 1 µL

MonoTrap Series

Cat.No	Description	Configuration	Size	Activated Carbon	Functional Group
1050-72101	MonoTrap DCC18	Disk	O.D.10mm x thick 1mm	Yes	C18
1050-72201	MonoTrap RCC18	Rod	O.D.2.9 mm x I.D.1mm x Hight	Yes	C18
1050-71101	MonoTrap DSC18	Disk	O.D.10mm x thick 1mm	No	C18
1050-71201	MonoTrap RSC18	Rod	O.D.2.9 mm x I.D.1mm x Hight	No	C18


DCC18


RCC18

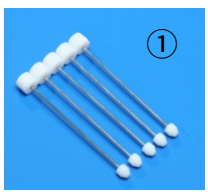

DSC18

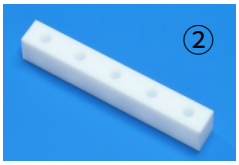

RSC18

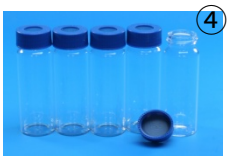
Initial use of MonoTrap…

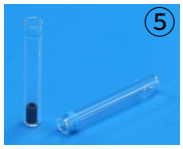
Introduction to the convenient MonoTrap Start UP-KIT

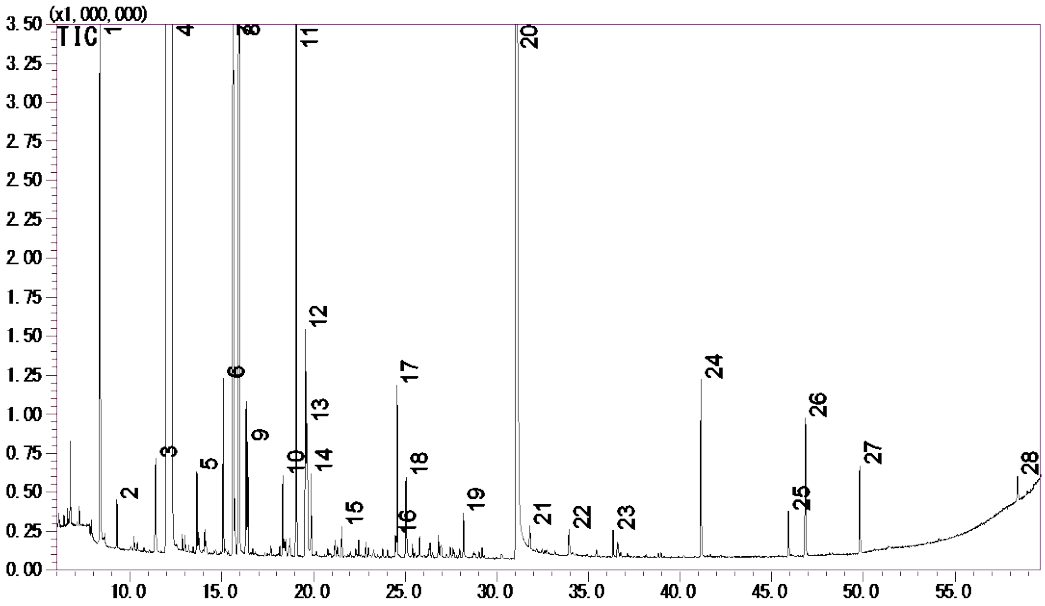
	Description	Qty.
①	MT Holder	5
②	MT Stand	1
③	MT Extract Cup with Vial (20 mL)	5
④	Clean Pin Hole Septum with vial (40mL)	5
⑤	200 µL glass insert (flat bottom)	40
⑥	MonoTrap DCC18	20
⑦	MonoTrap RCC18	20
⑧	MonoTrap DSC18	20
⑨	MonoTrap RSC18	20











1. Ethyl pentanoate
2. 1-Butanol
3. Isopentyl alcohol
4. Ethyl hexanoate
5. Hex-5-enoic acid, ethyl ester
6. Propyl hexanoate
7. Ethyl heptanoate
8. Ethyl laceate
9. 1-Hexanol
10. Butyl hexanoate
11. Ethyl octoate
12. Acetic acid
13. Furfural
14. Isopentyl hexanoate
15. Pentyl hexanoate
16. Octanenitrile
17. Hexyl hexanoate
18. Butanoic acid
19. Pentanoic acid
20. Hexanoic acid
21. Ethyl dihydrocinnamate
22. Heptanoic acid
23. Ethyl tetradecanoate
24. Ethyl hexadecanoate
25. Ethyl Oleate
26. Linoleic acid ethyl ester
*27. Dibutyl phthalate
*28. Octyl phthalate

*According to library search results

*Vermilion character; Baijiu (Chinese liquor) feature flavor

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