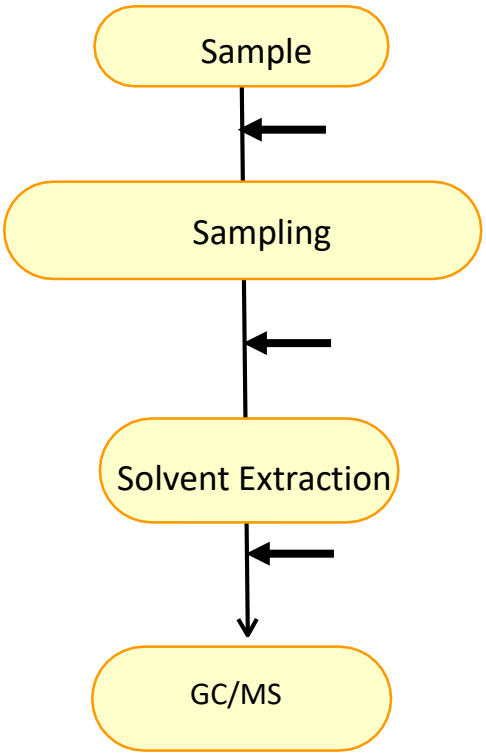
GT018
GL Sciences Inc.

Comparison of Mushroom Fragrance with MonoTrap

MonoTrap is a hybrid novel adsorbent that combines a large surface area and the properties of silica gel, activated carbon, and ODS. Utilizing the surface of porous silica, it can be used as a tool that makes use of the large surface area and the adsorbent effect caused by the inclusion of activated carbon for high collection efficiency and for short time and sensitive analysis. In this study, we used MonoTrap DCC18 (with activated carbon) to perform simple enrichment analyses of two fragrance components in different production areas (conditions). It is low-cost per unit and requires no conditioning before use, so multiple samples can be easily collected. The highly inert WAX-column InertCap Pure-WAX is the optimal column for fragrance components analyses. It is recommended to use this medicine in conjunction with MonoTrap.

Column : InertCap Pure-WAX (Cat.No. 1010-68142) 0.25 mm I.D. × 30 m df=0.25 µm

Protocol



2 kinds of Mushrooms produced in different areas 38 g/each

MonoTrap ; DCC18 5 pcs
Room temperature, 12 hours

Diethyl ether 1000 µL,
Ultrasonication 5 mins
Enrich by N_2 purge to a few µL

③MT Extract Cup with Vial

GC Condition

System : SHIMADZU GC-2010, GCMS-QP2010

Column : InertCap Pure-WAX
0.25 mm I.D. × 30 m df=0.25 µm

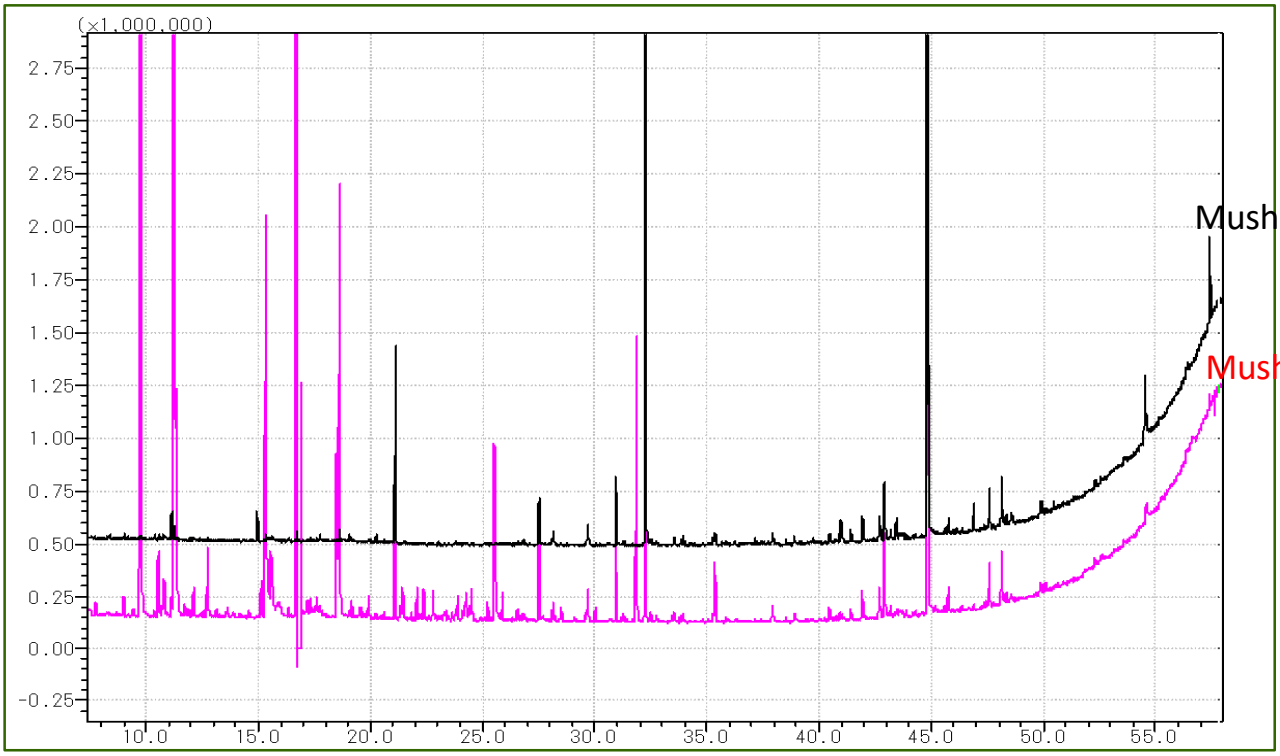
Column Temp : 40 ℃ (5 min)→4 ℃/min→250 ℃ (5 min)

GC Capillary Column: **InertCap Pure-WAX** 0.25 mm I.D. × 30 m df=0.25 µm Cat.No.1010-68142

Carrier Gas : He 95 kPa

Injection : Split 1:10, 1 µL 250 ℃

Detection : MS Scan (*m/z*;25-450)



＜Comparison of Fragrances by Area %＞

	Mushroom A	Mushroom B
1-Octen-3-ol	2.3 %	4.5 %
3-Octanol	1.7 %	33.1 %
3-Octanone	1.8 %	35.8 %
Dimethyl trisμLfide	1.7 %	4.5 %

Ref) [Food] Fragrance Encyclopedia by Japan Perfumery & Flavoring Association

Fresh mushroom contained more water while the dried one had stronger fragrance. These differences can be observed by GC/MS using MonoTrap

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