Easy Concentration of Red Wine Fragrance by HS with MonoTrap

MonoTrap is a hybrid novel adsorbent that combines a large surface area and the properties of silica gel, activated carbon, and ODS. Due to the large surface area of porous silica and the adsorption effect caused by the inclusion of activated carbon, a high collection efficiency is obtained. Therefore, high-sensitivity analysis can be performed in a short time. In this study, we used MonoTrap DCC18 (with activated carbon) to perform simple enrichment analyses of the fragrance components of domestic red wines by the HS-method. By warming to 60 °C, we were able to obtain much information by collecting it for as short as 30 minutes, while it was HS analysis. 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.

Protocol

Sample

← Red Wine 20 mL

HS Sampling

← MonoTrap: DCC18 1pc
60 °C, **30 mins**

Solvent Extraction

← Dichloromethane 300 µL,
Ultrasonication 5 mins

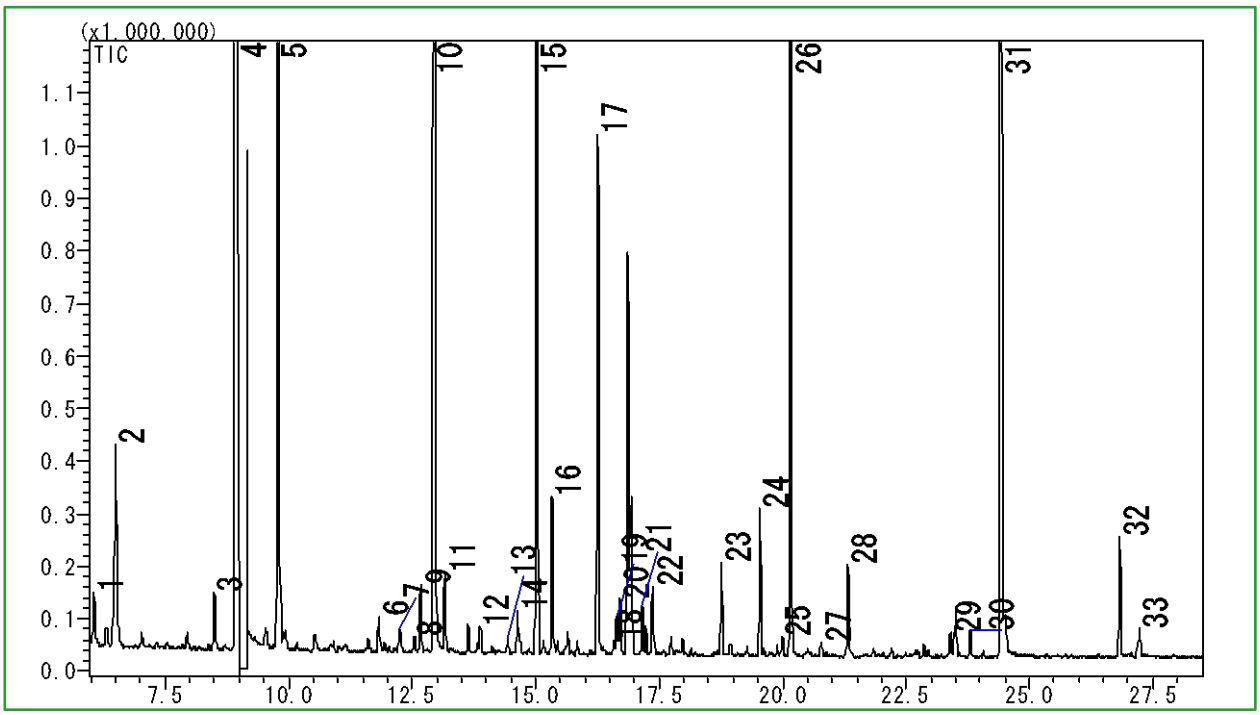
GC/MS

③MT Extract Cup with Vial
(Start UP-Kit)

GC Condition

S y stem : SHIMADZU GC-2010、GCMS-QP2010
Column : InertCap Pure-WAX (Cat.No. 1010-68142)
0.25 mm I.D.×30 m df=0.25 µm
Column Temp : 40 °C (5 min)→6 °C/min→250 °C (5min)
Carrier : He 95 kPa
Gas : Split /Splitless,1 µL
Injection 250 °C
Detection : MS Scan (*m/z*:55-400)

Ultra inert WAX column **InertCap Pure-WAX** is highly recommended to analyze aromatic compounds together with **MonoTrap**



1 2,2,6-Trimethyl-6-vinyltetrahydropyran
2 Isoamyl acetate
3 Limonene
4 1-Pentanol
5 Ethyl hexanoate
6 Maleic anhydride
7 3-Methylpentanol
8 1,1-Dimethoxy-2-propanol
9 Ethyl 2-hexenoate
10 1-Hexanol
11 cis-3-Hexen-1-ol
12 Nonanal
13 cis-2-Hexen-1-ol
14 Ethyl 2-hydroxy-3-methylbutanoate
15 Ethyl octanoate
16 Furfural
17 2-Ethyl-1-hexanol
18 Benzaldehyde
19 3-Ethyl-4-methylpentanol
20 2-Bornene
21 n-Propyl propionate
22 Ethyl dl-2-hydroxycaproate
23 β -Cyclocitral
24 Ethyl decanoate
25 α -D-Galactopyranose methyl glycoside
26 Diethyl succinate
27 3-(Methylthio)-1-propanol
28 1,5,8-Trimethyl-1,2-dihydronaphthalene
29 Hexanoic acid
30 Benzyl Alcohol
31 Phenylethyl Alcohol
32 Diethyl dl-malate
33 Octanoic Acid

Red・・・[Food] Fragrance Encyclopedia by Japan Perfumery & Flavoring Association

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