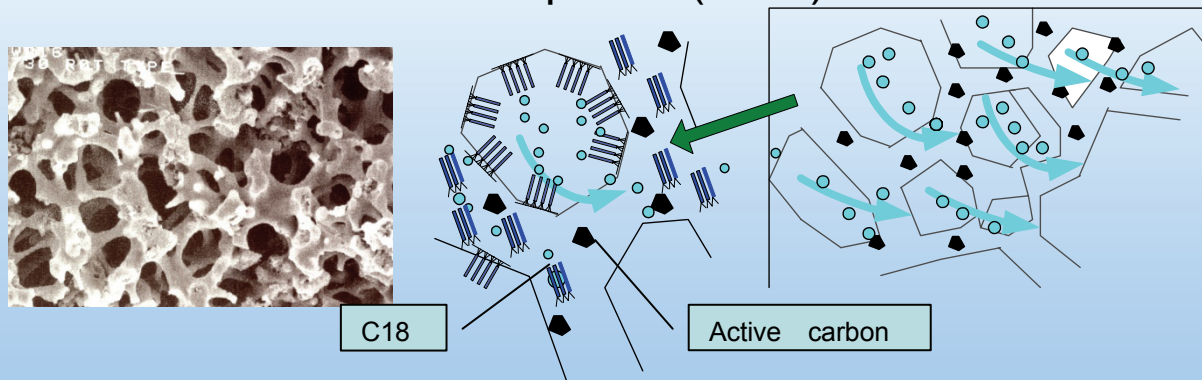


## Easy Concentration Trap and Extraction Chip

MonoTrap™ is based on monolithic silica surface including active carbon and modified with C18 phase (ODS).



### Excellent trapping efficiency!

Big surface area for trapping!

Strong chemical adsorption with active carbon and ODS!

#### MonoTrap™ Dimension



##### Disk type

O.D.: 10 mm  
Thickness: 1 mm  
MonoTrap-DCC18  
CatNo. 1050-72101

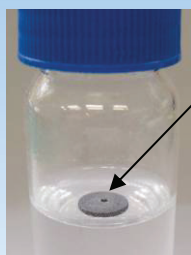


##### Rod type

O.D.: 2.9 mm, I.D.: 1 mm  
Height: 5 mm  
MonoTrap-RCC18  
CatNo. 1050-72201

### Easy to reduce sample preparation!

#### Sampling Liquid

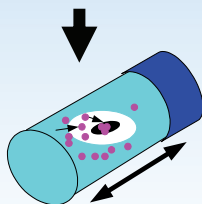


##### Agitation

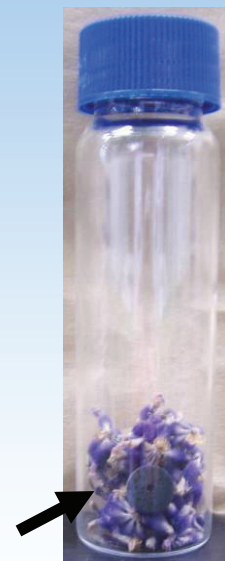
MonoTrap™ can be floating because of hydrophoby.

##### Head space

Easy to trap head space sample using dedicated attachment.



#### Sampling Solid



Easy to trap gas phase sample using bag and vial adding a MonoTrap™.

# Recovery as experimental

## Sampling time is just 5 min!

Sample consists of three aroma standard mixtures 250ng/mL each in water (20mL included NaCl15%).  
Sample extraction is performed by placing 20 mL of sample water in a 44 mL vial included Teflon® septum.  
[Sampling]

MonoTrapDCC18: Agitating for 5 min with 90 rpm and 60°C.

SBSE: Stirring for 5 min with 60 °C.

SPME: Aqueous sampling for 5 min with 60°C.

[Extraction]

Both MonoTrap and SBSE: Extracting with Acetonitrile 500 µL and injecting by syringe placed 1µL with Split less injection into GCMS.

SPME: Injecting with direct thermal desorption into GCMS.

Compounds	MonoTrap DCC18	SPME (PDMS)	SBSE
Cineol	82.1%	0.15%	9.8%
Linalool	85.3%	0.13%	11.4%
Limonene	77.3%	0.20%	12.1%

*Teflon® is a trademark of the DuPont company.*

### MonoTrap™ Advanced Features:

- Big surface area! High retention capability! Reasonable sensitivity even solvent extraction!
- Can be extracted by small amount solvent like 200 µL
- Short extraction time like 5 min.
- Do not need any conditioning before using.
- Has range of options for extraction solvent because of ODS.
- Short sampling time like around 20 min. ( Depending on property of sample)

## Accessories for head space sampling by MonoTrap™

Easy to handle MonoTrap for head space sampling also extraction without contamination.

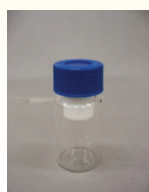
MonoTrap HS Sampling Kit  
Cat No.1050-79002



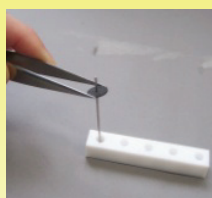
MT Stand x1



MT Holder x5



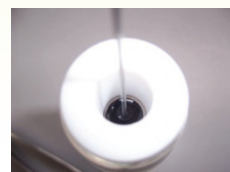
MT Extract Cup with Vial x5



Sampling



Extraction



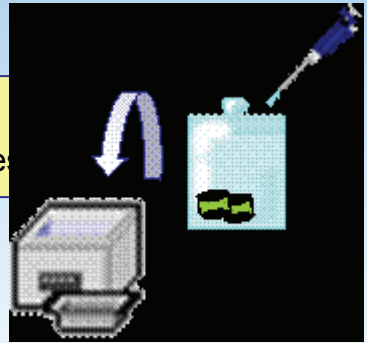
# Application Determination of Indole in gardenia. MonoTrap vs. SPME

## Sampling

Sampling is performed by placing 'gardenia' in a sampling bag, attaching a MonoTrap™ and holding for 3 hours.

## Extraction

The MonoTrap® is removed, extracted with 1 mL Dichloromethane rinsed by ultrasonic agitation for 20 minutes



## Concentration 1)

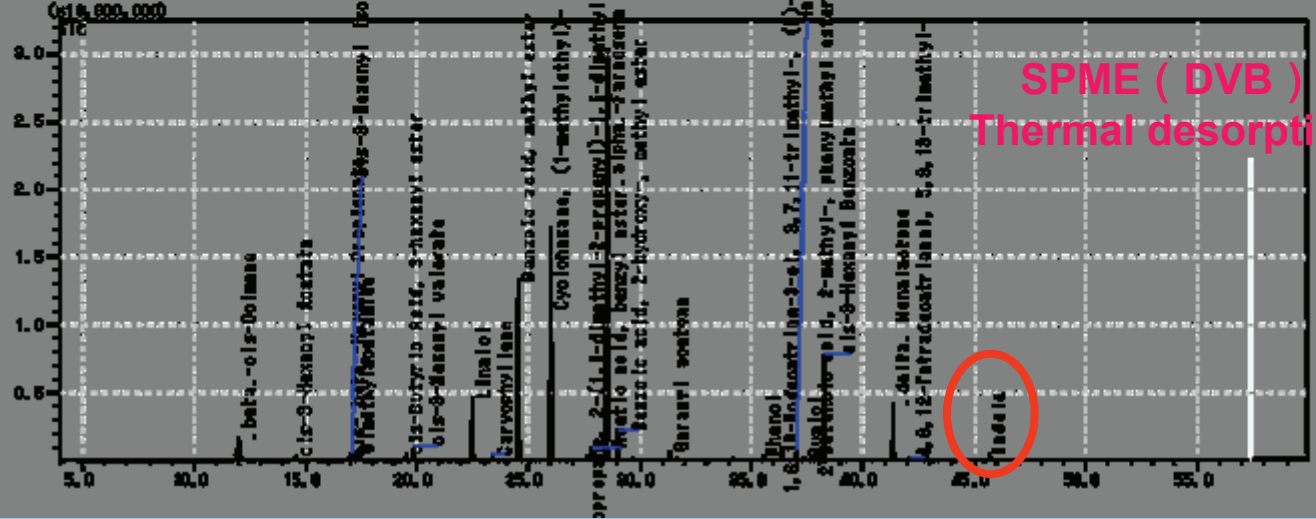
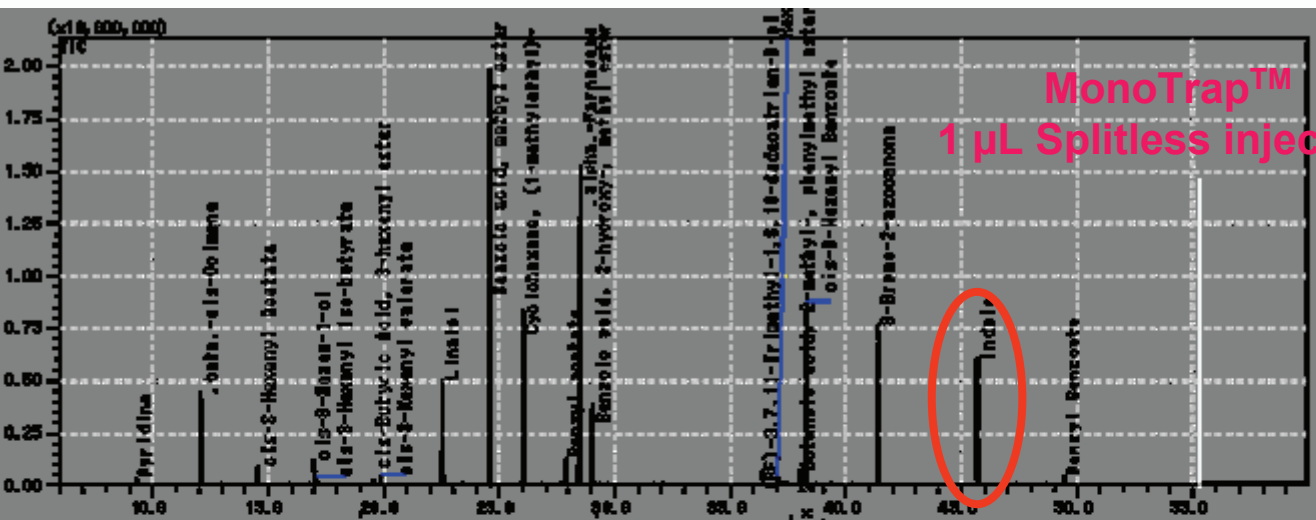
Concentration until 100 µL

## Injection



GCMS

1) Easy to reduce concentration step using large volume injection technique like OPTIC 3 produced by ATAS GL.



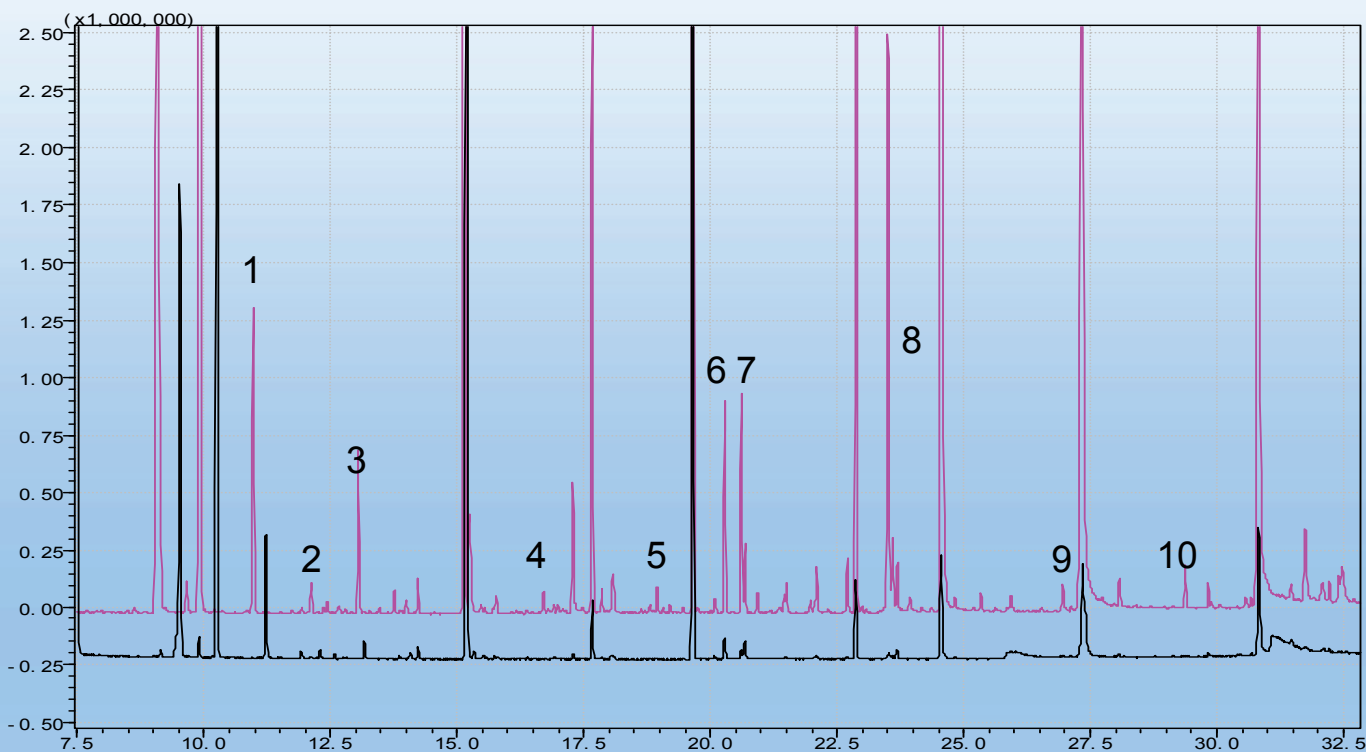
# Application Determination of key compounds in wine. MonoTrap vs. SBSE

## Sampling

Sampling is performed by shaking white wine with MonoTrap or SBSE in 40mL vial under 60°C and 1hour.

## Extraction

The MonoTrap, SBSE is removed, extracted with 300µL Solvent (MonoTrap:Dichloromethane, SBSE:Acetonitrile) rinsed by ultrasonic agitation for 5 minutes.



- |                             |                             |
|-----------------------------|-----------------------------|
| 1  Acetic acid, hexyl ester | 6  Clorius                  |
| 2  3-Hexen-1-ol, acetate    | 7  alpha.-Terpineol         |
| 3  1-Hexanol                | 8  Hexanoic acid            |
| 4  Benzaldehyde             | 9  Diethyl malate           |
| 5  Hotrienol                | 10  2-Methoxy-4-vinylphenol |

-MonoTrap,-SBSE

※SBSE extracted with Acetonitrile

**Easy to confirm some deferent performance with above ten compounds.**

GC: 40°C(5min)→6°C/min→250°C ( 5min)  
Injection: Split less Temp.: 250°C  
Column: InertCap Pure-WAX0.25mm×30m (0.25µm) **NEW !**  
(GL Sciences/Cat No. 1010-68142)  
MonoTrap: DCC18 (GL Sciences/Cat No.1050-10200)  
SBSE: Twister 500µm, 10mm (Gerstel)