

Sampler for Skin Gases

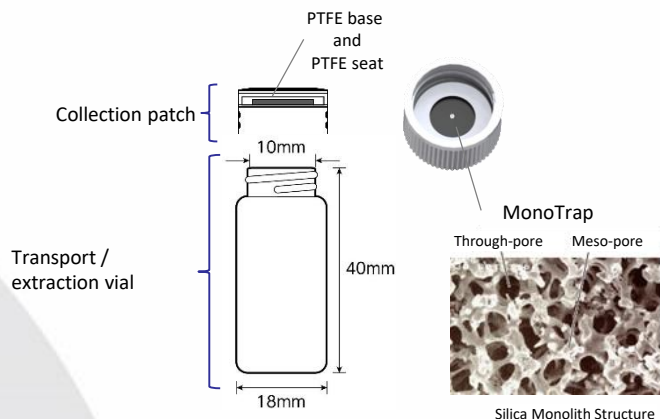
MonoTrap SG DCC18

Enable to Absorb Diffusion Gases from The Skin



MonoTrap SG DCC18 is a sampler for skin gases to use monolithic silica adsorption with high adsorption efficiency, and enable to adsorb diffusion gases from the skin out of touch with human body, but adsorb in space from surface of the skin.

After sampling, it can be stored by attaching it to the transport/extraction vial.



【 Specification 】

| | |
|-----------------------|---------------------------------|
| MonoTrap | C18 containing activated carbon |
| Desorption method | Solvent extraction |
| MonoTrap diameter | 10 mm |
| MonoTrap height | 1 mm |
| Surface area of patch | 0.594 cm ² |
| Vial volume | 6 mL |

【How to Sampling】

Take out the collection patch from the transport / extraction vial, and fix at position where it is to be collected skin gases.

**Use of medical tape is recommended for attachment.*



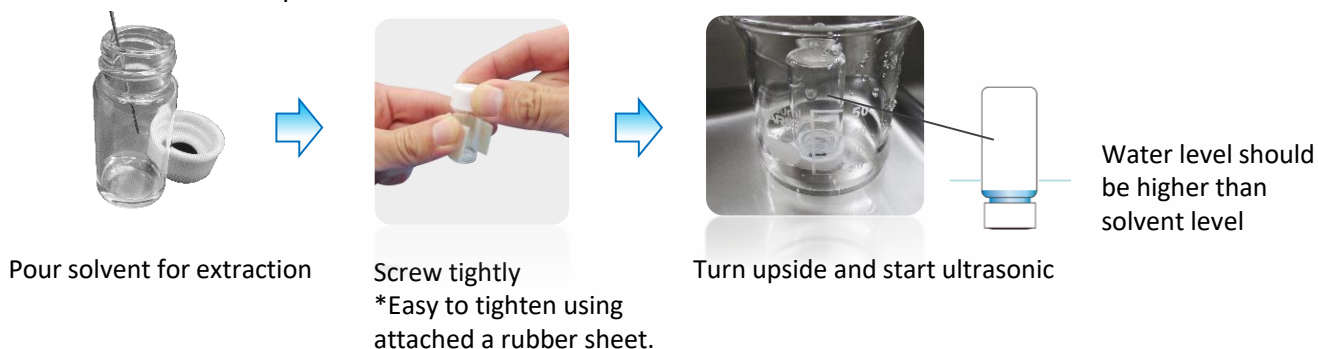
Adsorption of skin gas from arm



Adsorption of skin gas from neck

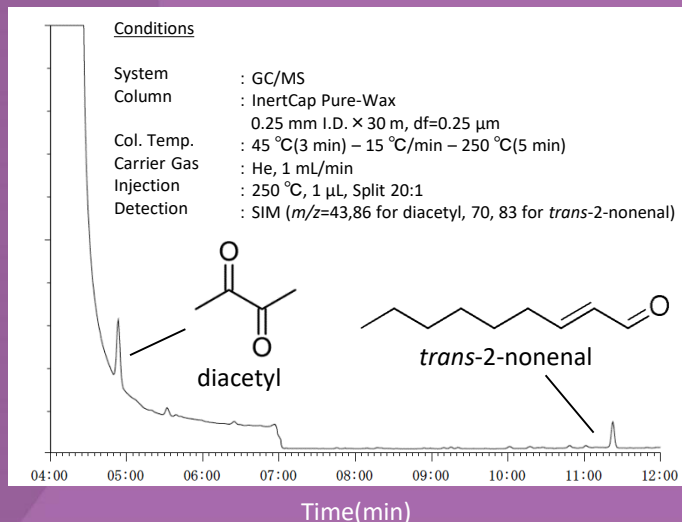
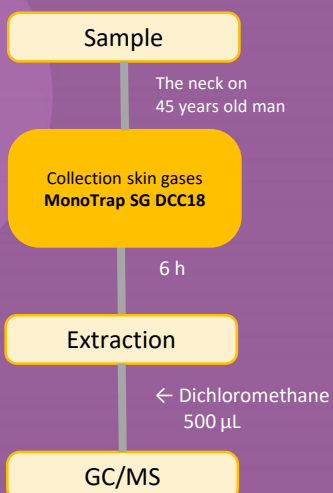
【Extraction】

Remove the collection patch from the transport/extraction vial and pour the extraction solvent into the transport / extraction vial. The collection patch is then mounted upside down, solvent extraction is performed by ultrasonic irradiation, and the collected components are extracted into a solvent.



【Application】

This is the result of the GC/MS analysis after placed MonoTrap SG DCC18 to the neck on 45 years old man, then solvent extraction is performed by ultrasonic irradiation.

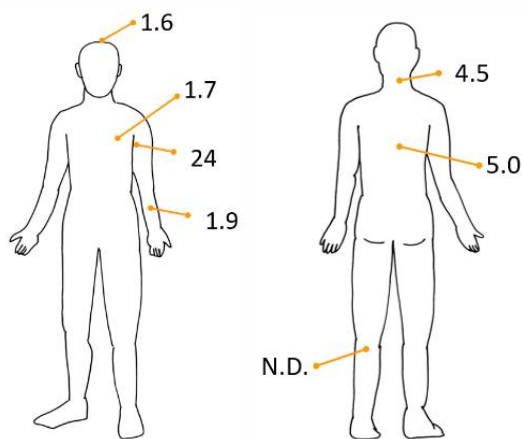


【Calculation of Skin Gases】

From adsorption amount analyzed using GC/MS analysis: W (ng), adsorption time: t (hour), surface area of MonoTrap SG DCC18: S (cm²), desorption flux amount: E can be calculated. The result of desorption flux of diacetyl calculated on each body sites. The flux value is different between sites to sites.

$$E = \frac{W}{S' \cdot t}$$

E = Desorption flux [ng cm⁻² h⁻¹]
 W = Adsorption amount [ng]
 t = Adsorption time [h]
 S' = Area of collection [cm²]



*Examinee : 45 years old man, unit (ng cm⁻² h⁻¹)

Presented data is provided by Prof. Sekine, University of Tokai

Reference

- Sekine, Y., Toyooka, S., Watts, S. F.: J. Chromatogr. B, 859, 201-207(2007)
- Kimura, K., Sekine, Y. et al., J. Chromatogr. B, 1028, 181-185(2016)
- Furukawa, S., Sekine Y. et al.: J. Chromatogr. B, 1053,60-64(2017)
- Sekine, Y., Toyooka, S., Watts, S. F.: J. Chromatogr. B, 859, 201-207(2007)
- Kimura, K., Sekine, Y. et al., J. Chromatogr. B, 1028, 181-185(2016)
- Furukawa, S., Sekine Y. et al.: J. Chromatogr. B, 1053,60-64(2017)
- Kimura, K. et al.: Abstract of academic conference for the Society of Indoor Environment, Japan, 202-203(2016)

【Ordering】

| Description | Qty. | Cat.No. |
|-------------------|---------|------------|
| MonoTrap SG DCC18 | 10pairs | 1050-70001 |
| | 20pairs | 1050-70002 |

Note 1) 1 Kit of MonoTrap SG DCC18 is a set of transport/extraction vial and the collection patch.

Note 2) 1 pc robber is in 1 pk MonoTrap SG DCC18.

Note 3) Please prepare fixing tape.



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GL Sciences, Inc. Japan

22-1 Nishishinjuku 6-chome
Shinjuku-ku, Tokyo
163-1130, Japan

Phone: +81-3-5323-6620
Fax: +81-3-5323-6621
Email: world@glsciences.com
Web: www.glsciences.com

GL Sciences, Inc. USA

4733 Torrance Blvd. Suite 255
Torrance, CA 90503
USA

Phone: +1-310-265-4424
Fax: +1-310-265-4425
Email: info@glsciencesinc.com
Web: www.glsciencesinc.com

GL Sciences B.V.

Dillenburgstraat 7C
5652AM, Eindhoven
The Netherlands

Phone: +31-40-254-9531
Email: info@glsciences.eu
Web: www.glsciences.eu

GL Sciences (Shanghai)

Limited Tower B, Room 2003
Far East International Plaza
No.317 Xianxia Road, Changning District
Shanghai, China 200051

Phone: +86-21-6278227
Email: contact@glsciences.com.cn
Web: www.glsciences.com.cn



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