GT128

GL Sciences Inc.

Easy Concentration & Analysis of Fresh and Spoiled Cabbage by MonoTrap - Thermal Desorption

Using MonoTrap RGC18TD containing graphite carbon, the volatile compounds of fresh and spoiled cabbage are determined by screening analysis.

Protocol

Cabbege — Put 25 g of chopped cabbage into a 100 mL vial

Spoiling Stage — Leave it at 60 ℃ for 3 – 7 days

Passive Sampling **MonoTrap RGC18TD × 2 pcs** — Room temperature For 3 hours

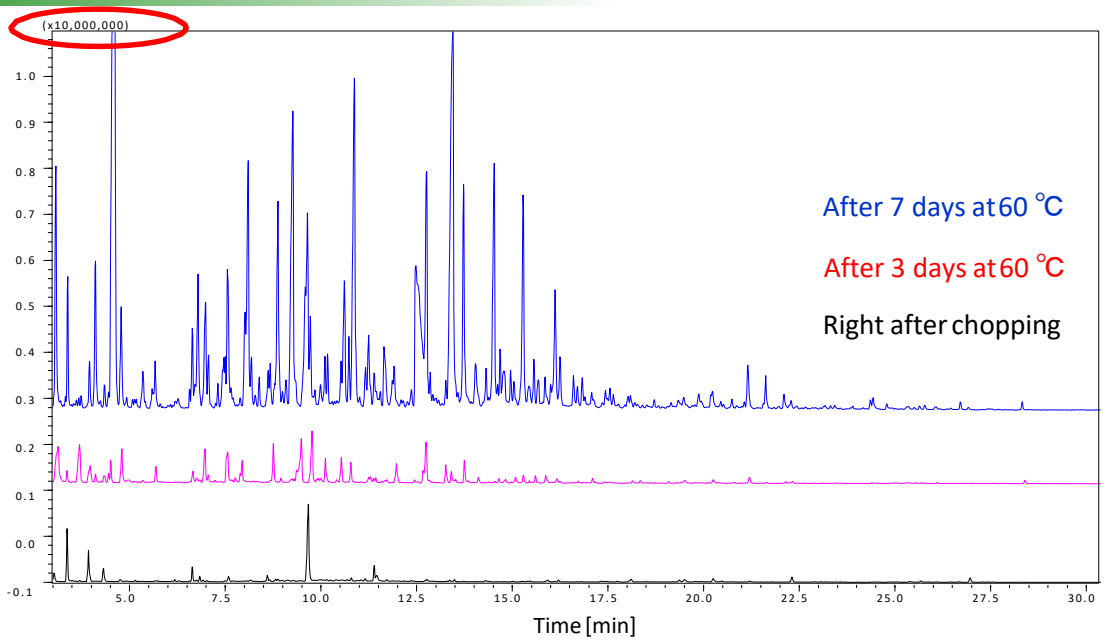
TD-GC/MS-O

<Left> Freshly chopped

<Right> After 3 days at 60 ℃

GCO Sniffing Port (OP275)

Spoiling Stage & Volatile Compouds



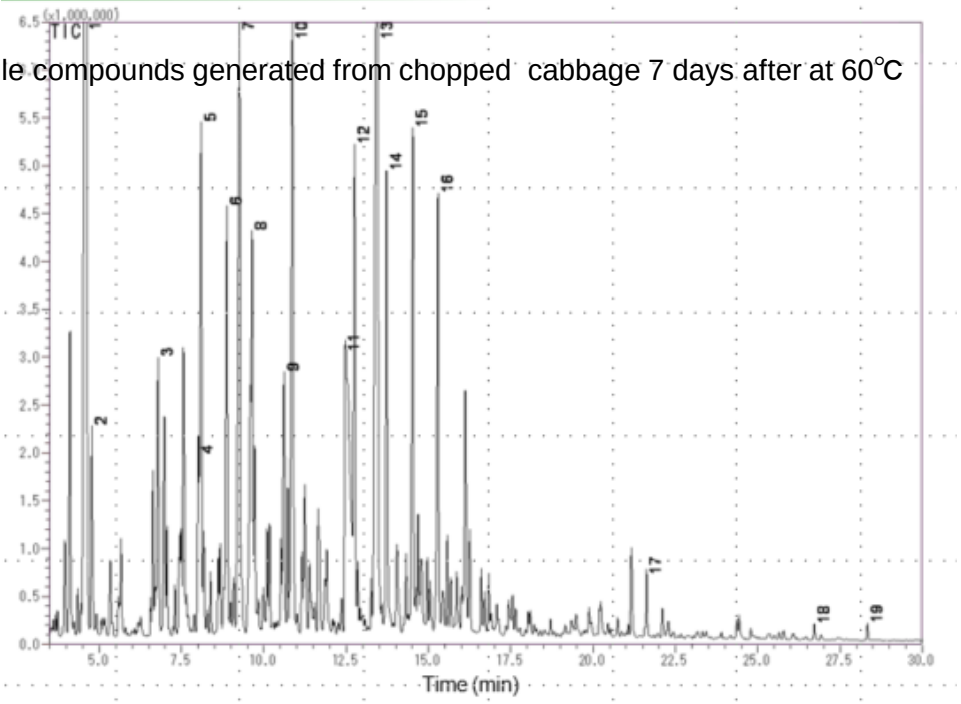
GC Conditions

System	: GC/MS-Thermal Desorption (T-Dex Ⅱ)
Column	: InertCap Pure-WAX
	0.25 mm I.D. × 60 m, df = 0.25 µm
Col.Temp.	: 40 ℃ (5 min) – 6 ℃/min - 250℃
Carrier Gas	: He, 1mL/min (constant flow)
Desorb Temp.	: 200 ℃
Time	: 5 min
Flow	: 5mL/min
Split	: Splitless
Cryo Trapping	: -150 ℃
Injection Temp.	: 250 ℃
Detection	: MS Scan (*m/z* 28.5 - 600)

Split the capillary column outlet and simultaneous measurement by GC/MS and GC/O. The sensitivity of MS is 1/10 of ordinal detectors. Due to the graphite carbon effect, SN compounds can be effectively detected.

Organoleptic Data of Volatile Compounds from Spoiled Cabbage

Volatile compounds generated from chopped cabbage 7 days after at 60℃



Compound	Smell	Compound	Smell
1. Dimethyl disulfide	Spoiled egg	11. Acetic acid	Sour
2. Hexanal	Fresh	12. 1-Octen-3-ol e alcohol	
3. 2-Heptanone		13. Hexane, 1-nitro-	Metal
4. 1-Butanol, 2-methyl-	Raw garbage	14. Benzaldehyde	
5. 1-Butanol, 3-methyl-	Bitter	15. 4-Hexen-1-ol,	
6. 1-Pentanol	Fresh	16. Benzonitrile	Bitter
7. Hexanenitrile	Spoiled	17. S-Methyl methanethiosulphonate	Spoiled
8. 2-Butanone, 3-hydroxy-		18. (2,6,6-Trimethyl-2-hydroxycyclohexylidene)-acetic acid lactone	
9. Dimethyl trisulfide	Spoiled	19. Indole	Foul
10. 1-Hexanol	Irritating		

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@gls.co.jp
Web: www.glsciences.com

GL Sciences B.V.
De Sleutel 9
5652 AS Eindhoven
The Netherlands
Phone: +31 (0)40 254 95 31
Email: info@glsciences.eu
Web: www.glsciences.eu

GL Sciences (ShangHai) Ltd.
Tower B, Room 2003,
Far East International Plaza,
NO,317 Xianxia Road,
Changning District.
Shanghai, China P.C. 200032
Phone: +86 (0)21-6278-2272
Email: contact@glsciences.com.cn
Web: www.glsciences.com.cn

GL Sciences, Inc. USA
4733 Torrance Blvd. Suite 255
Torrance, CA 90503
Phone: 310-265-4424
Fax: 310-265-4425
Email: info@glsciencesinc.com
Web: www.glsciencesinc.com

International Distributors
Visit our Website at:
https://www.glsciences.com/company/distributor.html