

Concentration Analysis of Volatile Components in Wasabi Paste - Using HandyTD Portable Thermal Desorber and MonoTrap Simplified Enrichment Tools

The volatile components of commercial wasabi paste were screened and analyzed using HandyTD and a simplified enrichment tool MonoTrap RGPS TD. HandyTD is a compact, portable and easy-to-operate thermal desorption device. After sample collection, set a glass liner containing the MonoTrap and introduce the heat-desorbed components into the GC inlet. A large number of different characteristic sulfur compounds were detected.

Pretreatment procedure

Wasabi paste

Place 6.25 g in a 44-mL vial

Collection (HS)
One MonoTrap RGPS TD

37 °C for 1 hour



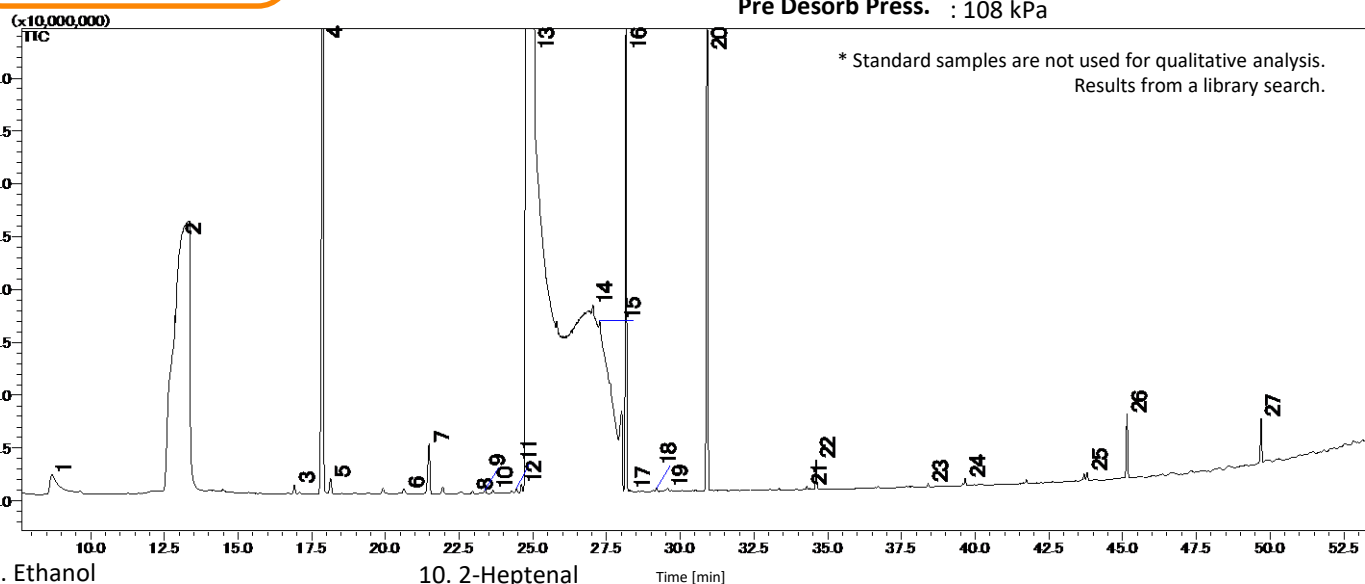
TD/GC/MS

GC Conditions

System : GC - MS - Thermal Desorption
(HandyTD TD265)
Column : InertCap Pure-WAX
0.32 mm I.D. x 60 m, df = 0.50 μm
Col.Cat. No. : 1010-68264
Col.Temp. : 40 °C (5 min) - 4 °C/min - 250 °C
Carrier Gas : He, 1.88 mL/min
GC Inlet : 250 °C, Split 7:1
Detection : MS Scan (*m/z* 15-450)

HandyTD Conditions

Desorb Temp. : 40 °C - 45 °C/sec - 250 °C (1.5 min)
Pre Desorb Press. : 108 kPa



* Standard samples are not used for qualitative analysis.
Results from a library search.

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|--------------------------------|--------------------------------------|----------------------------------|
| 1. Ethanol | 10. 2-Heptenal | 19. Tetrahydro-2-furanmethanol |
| 2. Water | 11. 5-Cyano-1-pentene | 20. Unknown |
| 3. 2-Butenenitrile | 12. 1-Hexanol | 21. Dihydro-2(3H)-thiophenone |
| 4. 1-Pentyne | 13. Allyl isothiocyanate | 22. Unknown |
| 5. Isopropyl isothiocyanate | 14. 2-Methylbutyl isothiocyanate | 23. 4-(Methylthio) butanenitrile |
| 6. 1-Pentanol | 15. 1-Isothiocyanato-3-methyl-butane | 24. Hexanoic acid |
| 7. 2-Isothiocyanatbutane | 16. 4-Isothiocyanato-1-butene | 25. Iberverin |
| 8. 1-(1-Ethoxyethoxy)-3-hexene | 17. Furfural | 26. Benzenepropanenitrile |
| 9. Isobutyl isothiocyanate | 18. Pentyl isothiocyanate | 27. Phenylethyl isothiocyanate |

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