

表1:データ収集文献リスト

1. (2002) 「野菜・山菜・穀類・キノコ類・海藻類の香り」特集号. 香料 216:31-196
2. (2003) 「ナッツ・魚介・畜肉・嗜好飲料・乳製品・アルコール類の香り」特集号. 香料 224:31-184
3. (2003) 「香辛料の香り」特集号. 香料 220:31-170
4. (DATEX) DCaEU (2009) Results on the monitoring of furan levels in food
5. (Fera) CCTFaERA (2009) CONSUMER EXPOSURE TO FURAN FROM HEAT-PROCESSED FOODS and KITCHEN AIR
6. Ai-Nong Y, Bao-Guo S (2005) Flavour substances of Chinese traditional smoke-cured bacon. *Food Chemistry* 89:227-233
7. Angerosa F, Basti C, Vito R, Lanza B (1999) Effect of fruit stone removal on the production of virgin olive oil volatile compounds. *Food Chemistry* 67:295-299
8. Annan NT, Poll L, Plahar WA, Jakobsen M (2003) Aroma characteristics of spontaneously fermented Ghanaian maize dough for kenkey. *European Food Research and Technology* 217:53-60
9. Arissetoa AP, Vicente E, Toledo MCDF (2010) Determination of furan levels in commercial samples of baby food from Brazil and preliminary risk assessment *Food Additives & Contaminants: Part A* 27:1051 - 1059
10. Arvid Fromberg SFaKGD-NFI (2009) Furan in heat processed food products including home cooked food products and ready-to-eat products
11. Attaie R (2009) Quantification of volatile compounds in goat milk Jack cheese using static headspace gas chromatography. *J Dairy Sci* 92:2435-2443
12. Azokpota P, Hounhouigan JD, Annan NT, Nago MC, Jakobsen M (2008) Diversity of volatile compounds of afitin, iru and sonru, three fermented food condiments from Benin. *World Journal of Microbiology and Biotechnology* 24:879-885
13. Bajpai VK, Rahman A, Kang SC (2008) Chemical composition and inhibitory parameters of essential oil and extracts of *Nandina domestica* Thunb. to control food-borne pathogenic and spoilage bacteria. *International Journal of Food Microbiology* 125:117-122
14. Barshick SA, Smith SM, Buchanan MV, Guerin MR (1995) Determination of Benzene Content in Food Using a Novel Blender Purge and Trap GC/MS Method. *Journal of Food Composition and Analysis* 8:244-257
15. Bellesia F, Pinetti A, Bianchi A, Tirillini B (1998) The volatile organic compounds of black truffle (*Tuber melanosporum*. Vitt.) from Middle Italy. *Flavour and Fragrance Journal* 13:56-58
16. Bertoli A, Pistelli L, Morelli I, Fraternali D, Giamperi L, Ricci D (2004) Volatile constituents of different parts (roots, stems and leaves) of *Smyrniololus sativum* L. *Flavour and Fragrance Journal* 19:522-525
17. Bosso A, Petrozziello M, Santini D, Motta S, Guaita M, Marulli C (2008) Effect of grain type and toasting conditions of barrels on the concentration of the volatile substances released by the wood and on the sensory characteristics of Montepulciano d'Abruzzo. *Journal of Food Science* 73:S373-S382
18. Bueno JE, Peinado RA, Medina M, Moreno J (2006) Effect of a short contact time with lees on volatile composition of Airen and Macabeo wines. *Biotechnology Letters* 28:1007-1011
19. Bule MV, Desai KM, Parisi B, Parulekar SJ, Slade P, Singhal RS, Rodriguez A (2010) Furan formation during UV-treatment of fruit juices. *Food Chemistry* 122:937-942
20. Buttery RG, Light DM, Nam Y, Merrill GB, Roitman JN (2000) Volatile components of green walnut husks. *J Agric Food Chem* 48:2858-2861
21. Caldeira I, Pereira R, Claramaco MC, Belchior AP, De Sousa RB (2004) Improved method for extraction of aroma compounds in aged brandies and aqueous alcoholic wood extracts using ultrasound. *Anal Chim Acta* 513:125-134

22. Caligiani A, Acquotti D, Palla G, Bocchi V (2007) Identification and quantification of the main organic components of vinegars by high resolution ¹H NMR spectroscopy. *Anal Chim Acta* 585:110-119
23. Campillo N, Penalver R, Lopez-Garcia I, Hernandez-Cordoba M (2009) Headspace solid-phase microextraction for the determination of volatile organic sulphur and selenium compounds in beers, wines and spirits using gas chromatography and atomic emission detection. *Journal of Chromatography A* 1216:6735-6740
24. Canada H (2006) Survey of Benzene in Soft Drinks and other Beverage Products.
25. Caprino F, Moretti VM, Bellagamba F, Turchini GM, Busetto ML, Giani I, Paleari MA, Pazzaglia M (2008) Fatty acid composition and volatile compounds of caviar from farmed white sturgeon (*Acipenser transmontanus*). *Anal Chim Acta* 617:139-147
26. Carrillo JD, Tena MT (2006) Determination of volatile compounds in antioxidant rosemary extracts by multiple headspace solid-phase microextraction and gas chromatography. *Flavour and Fragrance Journal* 21:626-633
27. Castro R, Natera R, Benitez P, Barroso CG (2004) Comparative analysis of volatile compounds of 'fino' sherry wine by rotatory and continuous liquid-liquid extraction and solid-phase microextraction in conjunction with gas chromatography-mass spectrometry. *Anal Chim Acta* 513:141-150
28. Ceh L, Ender F (1978) A sensitive method for the colorimetric determination of volatile nitrosamines in food products and air. *Food Cosmet Toxicol* 16:117-121
29. Chen MZ, Dewis ML, Kraut K, Merritt D, Reiber L, Trinnaman L, Da Costa NC (2009) 2, 5-diketopiperazines (cyclic dipeptides) in beef: identification, synthesis, and sensory evaluation. *J Food Sci* 74:MID-19319870
30. Chin ST, Nazimah SAH, Quek SY, Che Man YB, Abdul Rahman R, Mat Hashim D (2008) Changes of volatiles' attribute in durian pulp during freeze- and spray-drying process. *LWT - Food Science and Technology* 41:1899-1905
31. Ciccio JF (2004) A source of almost pure methyl chavicol: volatile oil from the aerial parts of *Tagetes lucida* (Asteraceae) cultivated in Costa Rica. *Rev Biol Trop* 52:853-857
32. Coelho E, Coimbra MA, Nogueira JMF, Rocha SM (2009) Quantification approach for assessment of sparkling wine volatiles from different soils, ripening stages, and varieties by stir bar sorptive extraction with liquid desorption. *Anal Chim Acta* 635:214-221
33. Croissant AE, Washburn SP, Dean LL, Drake MA (2007) Chemical properties and consumer perception of fluid milk from conventional and pasture-based production systems. *Journal of Dairy Science* 90:4942-4953
34. De Leon-Rodriguez A, Gonzalez-Hernandez L, De La Rosa APB, Escalante-Minakata P, Lopez MG (2006) Characterization of volatile compounds of mezcal, an ethnic alcoholic beverage obtained from *Agave salmiana*. *Journal of Agricultural and Food Chemistry* 54:1337-1341
35. de Lourdes Cardeal Z, Guimares EM, Parreira FV (2005) Analysis of volatile compounds in some typical Brazilian fruits and juices by SPME-GC method. *Food Additives and Contaminants* 22:508-513
36. De Simon BF, Cadahia E, Sanz M, Poveda P, Perez-Magarino S, Ortega-Heras M, Gonzalez-Huerta C (2008) Volatile compounds and sensorial characterization of wines from four spanish denominations of origin, aged in Spanish Rebollo (*Quercus pyrenaica* Willd.) oak wood barrels. *Journal of Agricultural and Food Chemistry* 56:9046-9055
37. Deetae P, Spinnler HE, Bonnarme P, Helinck S (2009) Growth and aroma contribution of *Microbacterium foliorum*, *Proteus vulgaris* and *Psychrobacter* sp. during ripening in a cheese model medium. *Applied Microbiology and Biotechnology* 82:169-177
38. Dellisanti A, Cerutti G, Airoidi L (1996) Volatile N-nitrosamines in selected Italian cheeses. *Bulletin of Environmental Contamination and Toxicology* 57:16-21
39. Didzbalis J, Ritter KA, Trail AC, Plog FJ (2004) Identification of fruity/fermented odorants in

- high-temperature-cured roasted peanuts. *Journal of Agricultural and Food Chemistry* 52:4828-4833
40. Dixon J, Hewett EW (2001) Exposure to hypoxia conditions alters volatile concentrations of apple cultivars. *Journal of the Science of Food and Agriculture* 81:22-29
 41. DWI (2001) Factors causing off-taste in waters, and methods and practices for the removal of off-taste and its causes.
 42. EFSA (2010) Update of results on the monitoring of furan levels in food. *EFSA Journal* 8:1702
 43. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2006) Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in contact with Food (AFC) on a request from the Commission related to Flavouring Group Evaluation 22: Ring-substituted phenolic substances from chemical groups 21 and 25. *EFSA Journal* 393:1-78
 44. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2007) Flavouring Group Evaluation 3, Revision 1 (FGE.03Rev 1): Acetals of branched- and straight-chain aliphatic saturated primary alcohols and branched- and straight-chain saturated or unsaturated aldehydes, an ester of a hemiacetal and an orthoester of formic acid, from chemical groups 1, 2 & 4. *EFSA Journal* 642:1-68
 45. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 1, Revision 1 (FGE.01Rev 1): Branched-chain aliphatic saturated aldehydes, carboxylic acids and related esters of primary alcohols and branched-chain carboxylic acids from chemical groups 1 and 2. *EFSA Journal* 617:1-44
 46. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 2, Revision 1: Branched- and straight-chain aliphatic saturated primary alcohols and related esters of primary alcohols and straight-chain carboxylic acids and one straight-chain aldehyde from chemical groups 1 and 2. *EFSA Journal* 709:1-60
 47. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 4: 2-Ethylhexyl derivatives from chemical group 2. *EFSA Journal* 929:1-46
 48. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 6, Revision 1 (FGE.06Rev1): Straight- and branched-chain aliphatic unsaturated primary alcohols, aldehydes, carboxylic acids, and esters from chemical groups 1 and 4. *EFSA Journal* 616:1-75
 49. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 9, Revision 1, (FGE.09 Rev1) 1 Secondary alicyclic saturated and unsaturated alcohols, ketones and esters containing secondary alicyclic alcohols from chemical groups 8 and 30, and an ester of a phenol carboxylic acid from chemical group 25. *EFSA Journal* 927:1-60
 50. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 11, Revision 1 (FGE.11Rev1) 1 Aliphatic dialcohols, diketones, and hydroxyketones from chemical group 10. *EFSA Journal* 493:1-48
 51. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 15, Revision 1 (FGE.15Rev1) Aryl-substituted saturated and unsaturated primary alcohol/aldehyde/acid/ester derivatives from chemical group 22. *EFSA Journal* 733:1-53
 52. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 17, Revision 1 (FGE.17Rev1): Pyrazine derivatives from chemical group 24. *EFSA Journal* 812:1-59
 53. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 23, Revision 1 (FGE.23Rev1): Aliphatic, alicyclic and aromatic ethers including anisole derivatives from chemical groups 15, 16, 26 and 301. *EFSA Journal* 833:1-67
 54. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group

- Evaluation 27 (FGE.27): One aromatic lactone from chemical group 111. EFSA Journal 806:1-27
55. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 31, (FGE.31) One Epoxide from Chemical Group 321. EFSA Journal 811:1-34
 56. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 33: Six Tetrahydrofuran Derivatives From Chemical Groups 13, 14, 16 and 26. EFSA Journal 916:1-37
 57. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 36, (FGE.36) 1 Two triterpene glycosides from the priority list. EFSA Journal 740:1-19
 58. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 38 (FGE.38) 1 3-Butenyl isothiocyanate EFSA Journal 813:1-39
 59. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 41: 2-Ethylhexyl derivatives from chemical group 2. EFSA Journal 929:1-46
 60. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 47, (FGE.47) 1 Bicyclic secondary alcohols, ketones and related esters from chemical group 8. EFSA Journal 743:1-38
 61. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 48: Aminoacetophenone from chemical group 331 EFSA Journal 797:1-25
 62. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Flavouring Group Evaluation 49, (FGE.49) 1: Xanthin alkaloids from the Priority list from chemical group 30. EFSA Journal 741:1-15
 63. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in contact with Food (AFC) on a request from the Commission related to Flavouring Group Evaluation 5, Revision 1 (FGE.05Rev1): Esters of branched- and straight-chain aliphatic saturated primary alcohols and of one secondary alcohol, and branched- and straight-chain unsaturated carboxylic acids from chemical groups 1, 2, and 5. EFSA Journal 643:1-80
 64. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2008) Pyridine, pyrrole, indole and quinoline derivatives from chemical group 28 Flavouring Group Evaluation 24, Revision 1 EFSA Journal 792:1-63
 65. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2009) Flavouring Group Evaluation 10, Revision 1 (FGE10 Rev1) 1 Aliphatic primary and secondary saturated and unsaturated alcohols, aldehydes, acetals, carboxylic acids and esters containing an additional oxygenated functional group and lactones from chemical groups 9, 13 and 30. EFSA Journal 934:1-114
 66. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2009) Flavouring Group Evaluation 14, Revision 1 (FGE.14Rev1) 1 Phenethyl alcohol, aldehyde, acetals, carboxylic acid and related esters from chemical group 15 and 22. EFSA Journal 930:1-53
 67. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2009) Flavouring Group Evaluation 18, Revision 1 (FGE. 18 Rev1) 1: Aliphatic, alicyclic and aromatic saturated and unsaturated tertiary alcohols, aromatic tertiary alcohols and their esters from chemical groups 6 and 8. EFSA Journal ON-978:1-85
 68. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2009) Flavouring Group Evaluation 20, Revision 1 (FGE.20Rev1) 1: Benzyl alcohols, benzaldehydes, a related acetal, benzoic acids and related esters from chemical group 23. EFSA Journal ON-976:1-125
 69. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2009) Flavouring Group Evaluation 29 (FGE29) 1 Substance from the priority list: Vinylbenzene from chemical group 31. EFSA Journal 738:1-15
 70. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2009) Opinion Flavouring Group Evaluation 46 (FGE.46) 1: Ammonia and two ammonium salts from chemical group 30. EFSA

Journal ON-955:1-34

71. EFSA Panel on Food Additives, Flavourings PAaMiCwFA (2010) Flavouring Group Evaluation 8 (FGE.08)1:Aliphatic and alicyclic mono-, di-, tri-, and polysulphides with or without additional oxygenated functional groups from chemical group 20. EFSA Journal 2010 8:1021
72. EFSA Panel on Food Contact Materials E, Flavourings and Processing Aids (2009) Flavouring Group Evaluation 7, Revision 2 (FGE.07Rev2) 1:Saturated and unsaturated aliphatic secondary alcohols, ketones and esters of secondary alcohols and saturated linear or branched-chain carboxylic acids from chemical group 5. EFSA Journal 1020:1-70
73. EFSA Panel on Food Contact Materials E, Flavourings and Processing Aids (2009) Flavouring Group Evaluation 16, Revision 2 (FGE.16Rev2): Aromatic ketones from chemical group 21. EFSA Journal 12:1022
74. EFSA Panel on Food Contact Materials E, Flavourings and Processing Aids (2009) Flavouring Group Evaluation 21, Revision 1 (FGE.21Rev1)1: Thiazoles, thiophene, thiazoline and thienyl derivatives from chemical group 29 Miscellaneous substances from chemical group 30 EFSA Journal 1023:1-85
75. EFSA Panel on Food Contact Materials E, Flavourings and Processing Aids (2009) Flavouring Group Evaluation 43: Thujyl alcohol from chemical group 8. EFSA Journal 1031:1-38
76. EFSA Panel on Food Contact Materials E, Flavourings and Processing Aids (2010) Flavouring Group Evaluation 13, Revision 1 (FGE.13Rev1): Furfuryl and furan derivatives with and without additional side-chain substituents and heteroatoms from chemical group 14. EFSA Journal 8:1403
77. EFSA Panel on Food Contact Materials E, Flavourings and Processing Aids (2010) Flavouring Group Evaluation 25, Revision 1 (FGE.25Rev1): Aliphatic and aromatic hydrocarbons from chemical group 31. EFSA Journal 8:1334
78. El-Ghorab AH, Fadel HM, El-Massry KF (2002) The Egyptian Eucalyptus camaldulensis var. brevirostris: Chemical compositions of the fruit volatile oil and antioxidant activity. Flavour and Fragrance Journal 17:306-312
79. Elmore JS, Nisyrios I, Mottram DS (2005) Analysis of the headspace aroma compounds of walnuts (*Juglans regia* L.). Flavour and Fragrance Journal 20:501-506
80. Ezquerro O, Tena MT (2005) Determination of odour-causing volatile organic compounds in cork stoppers by multiple headspace solid-phase microextraction. Journal of Chromatography A 18:201-208
81. FDA (2006) US FDA-Total Diet Study Market Baskets 1991-3 through 2003-4.
82. FDA (2007) Data on benzene in soft drinks and other beverages.
83. FDA (2009) Exploratory data on furan in food: individual food products.
84. Fleming-Jones ME, Smith RE (2003) Volatile Organic Compounds in Foods: A Five Year Study. Journal of Agricultural and Food Chemistry 51:8120-8127
85. Franz R, Welle F (2008) Migration measurement and modelling from poly(ethylene terephthalate) (PET) into soft drinks and fruit juices in comparison with food simulants. Food Additives and Contaminants - Part A Chemistry, Analysis, Control, Exposure and Risk Assessment 25:1033-1046
86. Fuselli SR, García De La Rosa SB, Eguaras MJ, Fritz R (2008) Chemical composition and antimicrobial activity of Citrus essences on honeybee bacterial pathogen *Paenibacillus* larvae, the causal agent of American foulbrood. World Journal of Microbiology and Biotechnology 24:2067-2072
87. Goff SA, Klee HJ (2006) Plant volatile compounds: Sensory cues for health and nutritional value? Science 311:815-819
88. González-Mas MC, García-Riá LM, Alfaro C, Rambla JL, Padilla AI, Gutierrez A (2009) Headspace-based techniques to identify the principal volatile compounds in red grape

- cultivars. *International Journal of Food Science and Technology* 44:510-518
89. Guadayol JM, Caixach J, Ribera J, Cabañas J, Rivera J (1997) Extraction, Separation and Identification of Volatile Organic Compounds from Paprika Oleoresin (Spanish Type). *Journal of Agricultural and Food Chemistry* 45:1868-1872
 90. Hadjimitsi E, Zabetakis I (2005) The aroma of jam prepared from fruits of mosphilla (*Crataegus azarolus* L.). *Flavour and Fragrance Journal* 20:507-511
 91. Hee SS, Phi NTL, Park YH, Sawamura M (2006) Volatile profiles in cold-pressed peel oil from Korean and Japanese Shiranui (*Citrus unshiu* Marcov. x *C. sinensis* Osbeck x *C. reticulata* Blanco). *Bioscience, Biotechnology and Biochemistry* 70:737-739
 92. Heikes DL, Jensen SR, Fleming-Jones ME (1995) Purge and trap extraction with GC-MS determination of volatile organic compounds in table-ready foods. *Journal of Agricultural and Food Chemistry* 43:2869-2875
 93. Heppner CW, Schlatter JR (2007) Data requirements for risk assessment of furan in food. *Food Additives and Contaminants* 24:114-121
 94. Hernandez-Orte P, Lapeña AC, Peña-Gallego A, Astrain J, Baron C, Pardo I, Polo L, Ferrer S, Cacho J, Ferreira V (2008) Biogenic amine determination in wine fermented in oak barrels: Factors affecting formation. *Food Research International* 41:697-706
 95. Hiatt MH, Pia JH (2004) Screening Processed Milk for Volatile Organic Compounds Using Vacuum Distillation/Gas Chromatography/Mass Spectrometry. *Archives of Environmental Contamination and Toxicology* 46:189-196
 96. Hu SP, Pan BS (2000) Modification of fish oil aroma using a macroalgal lipoxygenase. *JAACS, Journal of the American Oil Chemists' Society* 77:343-348
 97. Kaminarides S, Stamou P, Massouras T (2007) Comparison of the characteristics of set type yoghurt made from ovine milk of different fat content. *International Journal of Food Science and Technology* 42:1019-1028
 98. Kimbaris AC, Siatis NG, Daferera DJ, Tarantilis PA, Pappas CS, Polissiou MG (2006) - Comparison of distillation and ultrasound-assisted extraction methods for the isolation of sensitive aroma compounds from garlic (*Allium sativum*). *Ultrason Sonochem* 13:54-60
 99. Komthong P, Hayakawa S, Kato T, Igura N, Shimoda M (2006) Determination of potent odorants in apple by headspace gas dilution analysis. *LWT - Food Science and Technology* 39:472-478
 100. Kullman G, Boylstein R, Jones W, Piacitelli C, Pendergrass S, Kreiss K (2005) Characterization of respiratory exposures at a microwave popcorn plant with cases of bronchiolitis obliterans. *Journal of Occupational and Environmental Hygiene* 2:169-178
 101. La Guerche S, Dauphin B, Pons M, Blancard D, Darriet P (2006) Characterization of some mushroom and earthy off-odors microbially induced by the development of rot on grapes. *Journal of Agricultural and Food Chemistry* 54:9193-9200
 102. Lee GH, Shin Y, Oh MJ (2008) Aroma-active components of *Lycii fructus* (kukija). *J Food Sci* 73:MID-18929368
 103. Liang YR, Ye Q, Jin J, Liang H, Lu JL, Du YY, Dong JJ (2008) Chemical and instrumental assessment of green tea sensory preference. *International Journal of Food Properties* 11:258-272
 104. Ligor M, Jarmalaviciene R, Szumski M, Maruška A, Buszewski B (2008) Determination of volatile and non-volatile products of milk fermentation processes using capillary zone electrophoresis and solid phase microextraction coupled to gas chromatography. *Journal of Separation Science* 31:2707-2713
 105. Lin JS, Chuang KT, Huang MS, Wei KM (2007) Emission of ethylene oxide during frying of foods in soybean oil. *Food and Chemical Toxicology* 45:568-574
 106. Lin LY, Peng CH, Wang HE, Wu TH, Chen CC, Yu TH, Wu CM, Peng RY (2007) Factors affecting solid phase microextraction (SPME) to concentrate the odorants of Chinese white salted noodles for GC-MS analysis. *Flavour and Fragrance Journal* 22:274-279

107. Liu M, Zeng Z, Tian Y (2005) Elimination of matrix effects for headspace solid-phase microextraction of important volatile compounds in red wine using a novel coating. *Anal Chim Acta* 540:341-353
108. Lloyd SW, Grimm CC (1999) Analysis of 2-methylisoborneol and geosmin in catfish by microwave distillation-solid-phase microextraction. *Journal of Agricultural and Food Chemistry* 47:164-169
109. Lo Presti M, Sciarrone D, Crupi ML, Costa R, Ragusa S, Dugo G, Mondello L (2008) Evaluation of the volatile and chiral composition in *Pistacia lentiscus* L. essential oil. *Flavour and Fragrance Journal* 23:249-257
110. Lojzova L, Riddelova K, Hajslova J, Zrostlikova J, Schurek J, Cajka T (2009) Alternative GC-MS approaches in the analysis of substituted pyrazines and other volatile aromatic compounds formed during Maillard reaction in potato chips. *Anal Chim Acta* 641:101-109
111. Lopez P, Batlle R, Salafranca J, Nerz C (2008) Efficiency of whole and skimmed powdered milk for trapping volatile compounds released from plastic containers in high-temperature applications. *Journal of Food Protection* 71:1889-1897
112. Maarse H (1991) *Volatile Compounds in Foods and Beverages*. Marcel Dekker, Inc
113. Madrera RR, Hevia AG, Garcia NP, Valles BS (2008) Evolution of aroma compounds in sparkling ciders. *LWT - Food Science and Technology* 41:2064-2069
114. Mariod A, Matthews B, Eichner K, Hussein IH (2006) Frying quality and oxidative stability of two unconventional oils. *JAOCS, Journal of the American Oil Chemists' Society* 83:529-538
115. Maxia A, Marongiu B, Piras A, Porcedda S, Tuveri E, Goncalves MJ, Cavaleiro C, Salgueiro L (2009) Chemical characterization and biological activity of essential oils from *Daucus carota* L. subsp. *carota* growing wild on the Mediterranean coast and on the Atlantic coast. *Fitoterapia* 80:57-61
116. McNeal TP, Hollifield HC, Diachenko GW (1995) Survey of trihalomethanes and other volatile chemical contaminants in processed foods by purge-and-trap capillary gas chromatography with mass selective detection. *Journal of AOAC International* 78:391-397
117. Mielnik MB, Sem S, Egelanddal B, Skrede G (2008) By-products from herbs essential oil production as ingredient in marinade for turkey thighs. *LWT - Food Science and Technology* 41:93-100
118. Mihara S, Bando S, Harada K, Ishizuka N (1990) Stirring continuous extraction of aqueous organic compounds with fluororesin as a water/organic solvent separator. *Journal of Agricultural and Food Chemistry* 38:999-1003
119. Miyahara M, Toyoda M, Ushijima K, Nose N, Saito Y (1995) Volatile halogenated hydrocarbons in foods. *Journal of Agricultural and Food Chemistry* 43:320-326
120. Morales ML, Tesfaye W, Garcia-Parrilla MC, Casas JA, Troncoso AM (2001) Sherry wine vinegar: Physicochemical changes during the acetification process. *Journal of the Science of Food and Agriculture* 81:611-619
121. Moretti VM, Madonia G, Diaferia C, Mentasti T, Paleari MA, Panseri S, Pirone G, Gandini G (2004) Chemical and microbiological parameters and sensory attributes of a typical Sicilian salami ripened in different conditions. *Meat Science* 66:845-854
122. Mugula JK, Nnko SAM, Narvhus JA, Sørhaug T (2003) Microbiological and fermentation characteristics of togwa, a Tanzanian fermented food. *International Journal of Food Microbiology* 80:187-199
123. Muyanja CMBK, Narvhus JA, Treimo J, Langsrud T (2003) Isolation, characterisation and identification of lactic acid bacteria from bushera: A Ugandan traditional fermented beverage. *International Journal of Food Microbiology* 80:201-210
124. Nakamura Y, Nakayama Y, Ando H, Tanaka A, Matsuo T, Okamoto S, Upham BL,

- Chang C-C, Trosko JE, Park EY, Sato K (2008) 3-Methylthiopropionic acid ethyl ester, isolated from Katsura-uri (Japanese pickling melon, *Cucumis melo* var. *conomon*), enhanced differentiation in human colon cancer cells. *J Agric Food Chem* 56:2977-2984
125. Natera R, Castro R, De Valme Garcera-Moreno M, Hernández MJ, Garcera-Barroso C (2003) Chemometric studies of vinegars from different raw materials and processes of production. *Journal of Agricultural and Food Chemistry* 51:3345-3351
 126. Naude Y, van Aardt M, Rohwer ER (2009) Multi-channel open tubular traps for headspace sampling, gas chromatographic fraction collection and olfactory assessment of milk volatiles. *Journal of Chromatography A* 1216:2798-2804
 127. Nerin C, Acosta D, Rubio C (2002) Potential migration release of volatile compounds from plastic containers destined for food use in microwave ovens. *Food Additives and Contaminants* 19:594-601
 128. Nerin C, Rubio C, Cacho J, Salafranca J (1998) Parts-per-trillion determination of styrene in yoghurt by purge-and-trap gas chromatography with mass spectrometry detection. *Food Additives and Contaminants* 15:346-354
 129. Nieminen T, Neubauer P, Sivelä S, Vatamo S, Silfverberg P, Salkinoja-Salonen M (2008) Volatile compounds produced by fungi grown in strawberry jam. *LWT - Food Science and Technology* 41:2051-2056
 130. Nogueira MCL, Lubachevsky G, Rankin SA (2005) A study of the volatile composition of Minas cheese. *LWT - Food Science and Technology* 38:555-563
 131. Page BD, Conacher HB, Salminen J, Nixon GR, Riedel G, Mori B, Gagnon J, Brousseau Y (1993) Survey of bottled drinking water sold in Canada. Part 2. Selected volatile organic compounds. *Journal of AOAC International* 76:26-31
 132. Paleari MA, Moretti VM, Bersani C, Beretta G, Mentasti T (2004) Characterisation of a lard cured with spices and aromatic herbs. *Meat Science* 67:549-557
 133. Panagou EZ, Tassou CC (2006) Changes in volatile compounds and related biochemical profile during controlled fermentation of cv. Conservolea green olives. *Food Microbiology* 23:738-746
 134. Peinado RA, Mauricio JC, Ortega JM, Medina M, Moreno J (2003) Changes in gluconic acid, polyols and major volatile compounds in sherry wine during aging with submerged flor yeast cultures. *Biotechnology Letters* 25:1887-1891
 135. Peterson DG, Reineccius GA (2003) Determination of the aroma impact compounds in heated sweet cream butter. *Flavour and Fragrance Journal* 18:320-324
 136. Pino J, Marbot R, Rosado A, Vázquez C (2003) Volatile constituents of fruits of *Garcinia dulcis* Kurz. from Cuba. *Flavour and Fragrance Journal* 18:271-274
 137. Pino JA, Marbot R, Vázquez C (2001) Characterization of volatiles in strawberry guava (*Psidium cattleianum* Sabine) fruit. *J Agric Food Chem* 49:5883-5887
 138. Quijano CE, Linares D, Pino JA (2007) Changes in volatile compounds of fermented cereza agria [*Phyllanthus acidus* (L.) Skeels] fruit. *Flavour and Fragrance Journal* 22:392-394
 139. Quijano CE, Salamanca G, Pino JA (2007) Aroma volatile constituents of Colombian varieties of mango (*Mangifera indica* L.). *Flavour and Fragrance Journal* 22:401-406
 140. Ragaert P, Devlieghere F, Devuyst E, Dewulf J, Van Langenhove H, Debevere J (2006) Volatile metabolite production of spoilage micro-organisms on a mixed-lettuce agar during storage at 7°C in air and low oxygen atmosphere. *International Journal of Food Microbiology* 112:162-170
 141. Rasooli I, Fakoor MH, Yadegarinia D, Gachkar L, Allameh A, Rezaei MB (2008) Antimycotoxigenic characteristics of *Rosmarinus officinalis* and *Trachyspermum copticum* L. essential oils. *International Journal of Food Microbiology* 122:135-139
 142. Rawat R, Gulati A (2008) Seasonal and clonal variations in some major glycosidic bound volatiles in Kangra tea (*Camellia sinensis* (L.) O. Kuntze). *European Food Research and*

Technology 226:1241-1249

143. Sabatini N, Marsilio V (2008) Volatile compounds in table olives (*Olea Europaea* L., Nocellara del Belice cultivar). *Food Chemistry* 107:1522-1528
144. Sabatini N, Mucciarella MR, Marsilio V (2008) Volatile compounds in uninoculated and inoculated table olives with *Lactobacillus plantarum* (*Olea europaea* L., cv. Moresca and Kalamata). *LWT - Food Science and Technology* 41:2017-2022
145. Sanchez-Palomo E, Alanon ME, Diaz-Maroto MC, Gonzalez-Vinas MA, Perez-Coello MS (2009) - Comparison of extraction methods for volatile compounds of Muscat grape juice. *Talanta* 79:871-876
146. Saxby MJ (1996) *Food taints and off-flavors*. Blackie Academic & Professional
147. Schneider R, Kotseridis Y, Ray J-L, Augier C, Baumes R (2003) Quantitative determination of sulfur-containing wine odorants at sub parts per billion levels. 2. Development and application of a stable isotope dilution assay. *J Agric Food Chem* 51:3243-3248
148. Shaw PE, Lebrun M, Ducamp MN, Jordan MJ, Goodner KL (2002) Pineapple juice concentrated by osmotic evaporation. *Journal of Food Quality* 25:39-49
149. Shaw PE, Lebrun M, Ducamp MN, Jordan MJ, Goodner KL (2002) Pineapple juice concentrated by osmotic evaporation. *Journal of Food Quality* 25:39-49
150. Soria AC, Martínez-Castro I, Sanz J (2008) Some aspects of dynamic headspace analysis of volatile components in honey. *Food Research International* 41:838-848
151. Soufleros EH, Pissa I, Petridis D, Lygerakis M, Mermelas K, Boukouvalas G, Tsimitakis E (2001) Instrumental analysis of volatile and other compounds of Greek kiwi wine; sensory evaluation and optimisation of its composition. *Food Chemistry* 75:487-500
152. Spranger MI, Clémaco MC, Sun B, Eiriz N, Fortunato C, Nunes A, Leandro MC, Avelar ML, Belchior AP (2004) Differentiation of red winemaking technologies by phenolic and volatile composition. *Anal Chim Acta* 513:151-161
153. Takahashi H, Sumitani H, Inada Y, Mori D, Nakano Y (2002) The Improvement of the Flavor of Canned Satsuma Mandarin. 東洋食品工業短大東洋食品研究所研究報告書 24:115-121
154. Takahashi H, Sumitani H, Inada Y, Mori D, Nakano Y (2002) Improvement of the Flavor of Canned Satsuma Mandarin with the Essence. 東洋食品工業短大東洋食品研究所研究報告書 24:123-129
155. Thybo AK, Edelenbos M, Christensen LP, Skjærnsen JN, Thorup-Kristensen K (2006) Effect of organic growing systems on sensory quality and chemical composition of tomatoes. *LWT - Food Science and Technology* 39:835-843
156. Ugliano M, Siebert T, Mercurio M, Capone D, Henschke PA (2008) Volatile and color composition of young and model-aged Shiraz wines as affected by diammonium phosphate supplementation before alcoholic fermentation. *J Agric Food Chem* 56:9175-9182
157. Wardencki W, Orlita J, Namiesnik J (2001) Comparison of extraction techniques for gas Chromatographic determination of volatile carbonyl compounds in alcohols. *Analytical and Bioanalytical Chemistry* 369:661-665
158. Zhao Y, Xu Y, Li J, Fan W, Jiang W (2009) Profile of volatile compounds in 11 brandies by headspace solid-phase microextraction followed by gas chromatography-mass spectrometry. *J Food Sci* 74:MID-19323722
159. 遠藤普克 (2005) イチゴジャムのフレーバー成分. *香料* 227:141-147
160. 久延義弘, 中野和子, 樋口香織, 末松伸一 (2000) HPLCによる米飯中のカルボニル化合物の定量. 東洋食品工業短大東洋食品研究所研究報告書 23:83-90
161. 隅谷英伸, 中谷文, 末兼幸子 (2000) 市販プラスチック容器詰米飯のヘッドスペース揮発性成分. 東洋食品工業短大東洋食品研究所研究報告書 23:75-81
162. 隅谷英伸, 末兼幸子, 中谷文, 達家清明 (1996) 高圧処理した温州ミカン果汁保存中における

- る揮発性成分の変化. 東洋食品工業短大東洋食品研究所研究報告書 21:91-104
163. 高橋英史, 隅谷英伸, 稲田有美子, 森大蔵 (2002) コンプの揮発性ヨウ素化合物の同定とその香調. 東洋食品工業短大東洋食品研究所研究報告書 24:131-142
164. 高橋英史, 隅谷英伸, 稲田有美子, 森大蔵, 達家清明 (2000) 温州ミカン缶詰製造工程および保存中の揮発性成分の変化. 東洋食品工業短大東洋食品研究所研究報告書 23:57-64
165. 高橋英史, 隅谷英伸, 稲田有美子, 森大蔵, 中野長久 (2000) ビワ果実の原料および缶詰製品の香気寄与成分. 東洋食品工業短大東洋食品研究所研究報告書 23:65-74
166. 山下みよ子, 野崎香織, 西岡千鶴, 毛利孝明, 塚本武 (2003) 苦情食品の検査事例 (平成14年度). 香川県環境保健研究センター所報 2:79-83
167. 瀧川聡 (2009) 即席カップめん用調理フレーバー開発の最近. 香料 243:43-49
168. 達家清明 (1998) ジョオウヤシ (*Syagrus romanzoffiana* var. *australe*) の果実の香気成分. 東洋食品工業短大東洋食品研究所研究報告書 22:113-122
169. 達家清明, 小浜正江, 末兼幸子, 森大蔵 (1987) かまぼこおよびかまぼこ板の揮発性成分のGC-MSによる同定と定量. 東洋食品工業短大東洋食品研究所研究報告書 17:47-58
170. 達家清明, 末兼幸子, 酒井康江 (1990) 缶詰鶏卵の異臭原因物質としてのクロロフェノール類の同定と定量. 東洋食品工業短大東洋食品研究所研究報告書 18:39-43
171. 達家清明, 末兼幸子, 酒井康江, 隅谷英伸 (1992) 貯蔵中の温州ミカン果汁のジメチルスルフィド生成抑制に及ぼす金属スズの影響. 東洋食品工業短大東洋食品研究所研究報告書 19:133-136
172. 池本毅 (2003) やせたい願望: 香りでくすぐる. 香料 217:129-133
173. 竹内伊公子, 朽木由香子, 長田博光 (1985) サバ、イワシ及びサンマ生肉並びに缶詰中の揮発性含硫化合物について. 東洋食品工業短大東洋食品研究所研究報告書 16:30-36
174. 竹内伊公子, 朽木由香子, 長田博光 (1990) 缶及び塗料の種類違ったマグロ缶詰の缶内面黒変生成とpH、揮発性成分及び遊離の含硫アミノ酸含有量との関係. 東洋食品工業短大東洋食品研究所研究報告書 18:65-75
175. 長田博光, 竹内伊公子, 森岡美智子 (1983) 魚類缶詰の臭の改良に関する研究-I. 東洋食品工業短大東洋食品研究所研究報告書 15:50-58
176. 藤村太郎, 川合哲夫 (2001) 海藻フレーバーと酵素. 香料 212:93-104
177. 奈賀俊人, 隅谷英伸 (2009) PETボトル詰柑橘果汁の光劣化異臭. 東洋食品工業短大東洋食品研究所研究報告書 27:65-69
178. 富士原義徳 (2004) ビールフレーバー. 香料 223:145-153
179. 与儀和夫 (2001) 異臭牛乳中の揮発性有機ハロゲン化合物. 沖縄県衛生環境研究所報 35:75-77
180. 鈴木紀生 (2003) 肉の香気成分. 香料 219:129-136
181. 澤村龍介 (2002) トマトフレーバー. 香料 214:121-127

表2: 検出が報告されている化合物リスト 英名アルファベット順

(1 <i>E</i>)-Hexenol	(<i>Z</i>)-3-nonenal	10-Undecenal
(1-methylethyl)-thiirane	(<i>Z</i>)-4-decen-6-yne	10-Undecyn-1-ol
(2 <i>E</i>)-Decenal	(<i>Z</i>)-4-decenoate	10- β -(<i>H</i>)-Cadina-1(6)4-diene
(2 <i>E</i>)-Hexenal	(<i>Z</i>)-4-hepten-2-ol	12-Hydroxy-cis-9-dodecenoic acid lactone
(2 <i>E,4E</i>)-Decadienal	(<i>Z</i>)-4-heptanal	15-octadecenal
(3 <i>H</i>)-Dihydro-5-pentyl-2-furanone	(<i>Z</i>)-5-octen-2-ol	16-Octadecenal
(3 <i>Z</i>)-Hexenyl benzoate	(<i>Z</i>)-5-octen-2-one	17-octadecenal
(3 <i>Z</i>)-Hexenyl butyrate	(<i>Z</i>)-6-nonen-1-ol	1-butanol
(5 <i>H</i>)-5-Pentyl-2-furanone	(<i>Z</i>)-8-heptadecenal	1-Butoxy-1-(3-methylbutoxy)-ethane
(d+)-2-hydroxypropanoic acid	(<i>Z</i>)-9-Hexadecenoic acid	1-cyano-3-methylsulfinylpropane
(<i>E</i>),(<i>Z</i>)-2,4-Heptadienal	(<i>Z</i>)-Linalool oxide	1-Decanol
(<i>E</i>),(<i>Z</i>)-3,5-Octadienone	(<i>Z</i>)- β -Damascenone	1-dichloroethene, <i>trans</i> -
(<i>E</i>)-1-propenyl propyl disulfide	(<i>Z</i>)- β -Ocimene	1-dodecanal
(<i>E</i>)-2-Butenal	(<i>Z</i>)- β -Terpineol	1-Ehoxy-1-(2-methylpropoxy)-3-methylbutane
(<i>E</i>)-2-decenal	(<i>Z,Z</i>)-2,4-decadienal	1-Ehoxy-1-(2-methylpropoxy)-pentane
(<i>E</i>)-2-Decenal	(<i>Z,Z</i>)-3,6-nonadien-1-ol	1-Ehoxy-1-(3-methylbutoxy)-3-methylbutane
(<i>E</i>)-2-heptenal	(<i>Z,Z</i>)-3,6-nonadienal	1- <i>epi</i> -Cubanol
(<i>E</i>)-2-hexen-1-ol	(<i>Z,Z,Z</i>)-5,8-tetradecadienoate	1-ethoxy-1-(2-methylbutoxy)ethane
(<i>E</i>)-2-hexenal	(<i>Z,Z,Z</i>)-8,11,14-heptadecatrienal	1-Ethoxy-1-(2-methylpropoxy)-2-methylpropane
(<i>E</i>)-2-hexenol	1-(1-Cyclohexen-1-yl)-2-propanone	1-Ethoxy-1-(2-methylpropoxy)-ethane
(<i>E</i>)-2-hexenyl acetate	1-(1-Pyrrolyl)-2-propanone	1-Ethoxy-1-(2-methylpropoxy)-propane
(<i>E</i>)-2-nonenal	1-(2,3,6-trimethylphenyl)-3-buten-2-one	1-ethoxy-1-(3-methylbutoxy)ethane
(<i>E</i>)-2-nonenone-4-one	1-(2-Furfuryl)pyrrole	1-Ethoxy-1-(3-methylbutoxy)-propane
(<i>E</i>)-2-octenal	1-(2-furyl)-2-hydroxyethanone	1-Ethoxy-1-(3-methylpropoxy)-2-methylpropane
(<i>E</i>)-2-octenol	1-(2-methylbutoxy)-1-(3-methylbutoxy)ethane	1-Ethoxy-1-butoxyehane
(<i>E</i>)-2-Penten-1-ol	1-(2-Methylpropoxy)-1-(3-methylbutoxy)-2-methylpropane	1-Ethoxy-1-isopentoxyethane
(<i>E</i>)-2-pentenal	1-(2-Methylpropoxy)-1-(3-methylbutoxy)-3-methylbutane	1-Ethoxy-1-pentoxeyhane
(<i>E</i>)-2-undecenal	1-(2-Methylpropoxy)-1-(3-methylbutoxy)-ethane	1-ethoxy-1-phenethoxyethane
(<i>E</i>)-3-Hexanal	1-(3-Methylbutoxy)-1-(2-methylbutoxy)-ethane	1-Ethoxy-1-propoxy-2-methylpropane
(<i>E</i>)-3-Hexenol	1-(3-methylbutoxy)-1-phenethoxyethane	1-Ethoxy-1-propoxyehane
(<i>E</i>)-3-Pentene-2-one	1-(3-methylpentyl)-3-methylbutanoate	1-Ethyl-2-formylpyrrole
(<i>E</i>)-3-Undecen-5-yne	1-(4-methylpentyl)-2-methylpropanoate	1-Heptadecene
(<i>E</i>)-4-(2',3',6'-trimethylphenyl)-3-buten-2-one	1-(4-methylpentyl)-4-methylbutanoate	1-Heptanol
(<i>E</i>)-4-decen-6-yne	1-(4-methylpentyl)-4-methylpentanoate	1-Hepten-3-yl acetate
(<i>E</i>)-Anethole	1,1,1-dichloroethane	1-Hexadecanol
(<i>E</i>)-carvyl acetate	1,1,1-trichloroethane	1-Hexan-3-one
(<i>E</i>)-Caryophyllene	1,1,2-Triethoxyethane	1-Hexanal
(<i>E</i>)-cinnamaldehyde	1,1,3-Triethoxypropane	1-Hexanol
(<i>E</i>)-Hept-2-enal	1,1,4-Tetradecanediol	1-Hexen-3-one
(<i>E</i>)-linalool oxide	1,1-Di-(2-methylpropoxy)-2-methylpropane	1 <i>H</i> -Pyrrole
(<i>E</i>)-Muuroala-4(14)5-diene	1,1-Di-(2-methylpropoxy)-3-methylbutane	1-Hydroxy-2-heptanone
(<i>E</i>)-Nerolidol	1,1-Di-(2-methylpropoxy)-ethane	1-Hydroxy-2-propanone
(<i>E</i>)-oct-2-enal	1,1-Di-(2-methylpropoxy)-pentane	1-Methoxy-1-ethoxyehane
(<i>E</i>)-Octenal	1,1-Di-(2-methylpropoxy)-propane	1-methyl-2-acetylpyrrole
(<i>E</i>)- β -Caryophyllene	1,1-Di-(3-methylbutoxy)-2-methylpropane	1-methyl-2-formylpyrrole
(<i>E</i>)- β -Damascenone	1,1-Di-(3-methylbutoxy)-3-methylbutane	1-methyl-4-isopropenylbenzene
(<i>E</i>)- β -Farnesene	1,1-di(3-methylbutoxy)ethane	1-Methylnaphthalene
(<i>E</i>)- β -ocimene	1,1-diethoxy-2-methylbutane	1-nitro-2-phenylethane
(<i>E</i>)- γ -Bisabolene	1,1-Diethoxy-2-propane	1-Nitro-3-methylbutane
(<i>E,E</i>)-2,4-decadienal	1,1-diethoxy-3-methylbutane	1-Nonanol
(<i>E,E</i>)-2,4-Heptadienal	1,1-Diethoxybutane	1-Nonen-3-ol
(<i>E,E</i>)-2,4-nonadienal	1,1-diethoxyethane	1-nonen-3-one
(<i>E,E</i>)-2,4-octadienal	1,1-Diethoxypentane	1-Nonen-3-yl acetate
(<i>E,E</i>)-3,5-Octadien-2-one	1,1-Diethoxyphenylethane	1-octanol
(<i>E,E</i>)-Deca-2,4-dienal	1,1-Diethoxypropane	1-Octanol-3-ol
(<i>E,E</i>)-Farnesal	1,1-Diethoxypropane+Ethyl 2-methylpropanoate	1-Octanol-3-one
(<i>E,E</i>)- β -farnesene	1,1Diethoxypropane-2-one	1-octen-3-ol
(<i>E,E,Z</i>)-2,4,7-Decatrienal	1,1-Diisopentoxyethane	1-octen-3-one
(<i>E,E,Z</i>)-2,4,7-Tridecatrienal	1,1-diphenethoxyethane	1-Octen-3-yl acetate
(<i>E,Z</i>)-2,4-decadienal	1,1-Dipropoxy-3-methylbutane	1-Octene
(<i>E,Z</i>)-2,4-decadienoate	1,1-Dipropoxyethane	1-octene-3-ol
(<i>E,Z</i>)-2,4-heptadienal	1,2,3,4-tetrahiopane	1-octene-3-one
(<i>E,Z</i>)-2,4-Hexadienal	1,2,3-Propanetriol	1-pentadecene
(<i>E,Z</i>)-2,4-Octadienal	1,2,3-Trimethylbenzene	1-Pentanol
(<i>E,Z</i>)-2,5-octadien-1-ol	1,2,3-trithiane-5-carboxylic acid	1-Pentanol+1-Hexen-3-ol
(<i>E,Z</i>)-2,6-nonadien-1-ol	1,2,4,5-tetrathiane	1-penten-3-ol
(<i>E,Z</i>)-2,6-nonadienal	1,2,4-Trimethylbenzene	1-penten-3-one
(<i>E,Z</i>)-3,5-Octadien-2-one	1,2,4-Trimethylcyclohexane	1-Pentoxy-1-(3-methylbutoxy)-ethane
(<i>E,Z,Z</i>)-2,4,6-nonatrienal	1,2,4-trithiolane	1-Phenyl-1-pentanone
(<i>E,Z,Z</i>)-2,4,7-Decatrienal	1,2-Dimercaptocyclopentane	1-phenylethanol
(<i>Z</i>)-1,5-octadien-3-ol	1,2-Dimethylbenzene	1- <i>p</i> -Menthen-9-al
(<i>Z</i>)-1,5-octadien-3-one	1,2-Dithiacyclopent-3-ene	1- <i>p</i> -menthene-8-thiol
(<i>Z</i>)-1,5-undecadien-3-ol	1,2-dithiacyclopentene	1-Ppenyl allyl disulfide
(<i>Z</i>)-1-propenyl propyl disulfide	1,2-Dithiane-4-carboxylic acid	1-Ppenyl allyl disulfide(Isomer)
(<i>Z</i>)-2-hexenal	1,2-Dithiane-5-methyl-4-carboxylic acid	1-Propanol
(<i>Z</i>)-2-hexenol	1,2-dithiocyclopentene	1-propene
(<i>Z</i>)-2-hexenol	1,2-dithiolane-4-carboxylic acid	1-propenyl allyl disulfide
(<i>Z</i>)-2-nonen-1-ol	1,2-Epithiopropene	1-Propoxy-1-(2-methylpropoxy)-3-methylbutane
(<i>Z</i>)-2-nonenal	1,3,5-Octatriene	1-Propoxy-1-(3-methylbutoxy)-3-methylbutane
(<i>Z</i>)-2-octen-1-ol	1,3,5-Trimethylbenzene	1-Propoxy-1-(3-methylbutoxy)-ethane
(<i>Z</i>)-2-Octenol	1,3-Dimethylbenzene	1-Propoxy-1-(3-methylbutoxy)-propane
(<i>Z</i>)-2-Penten-1-ol	1,3-Dithiane	1-Propoxy-1-(2-methylpropoxy)-2-methylpropane
(<i>Z</i>)-2-Pentenol	1,3-pentadiene	1-terpinen-4-ol
(<i>Z</i>)-3-Hexanol	1,3-Propanediol diacetate	1-tetradecene
(<i>Z</i>)-3-hexen-1-ol	1,4-Cineole	1- ρ -menthen-9-al
(<i>Z</i>)-3-hexen-1-yl acetate	1,4-Cyclohexadiene	2- and 3-methylbutanal
(<i>Z</i>)-3-hexen-1-yl formate	1,4-Dimethylbenzene	2-((methylthio)methylthio)ethanol
(<i>Z</i>)-3-hexenal	1,4-dithiacyclohept-5-ene	2-(2-methylpropyl)-3,6-dimethylpyrazine
(<i>Z</i>)-3-Hexenoic acid	1,5-Octadien-3-ol	2-(2-methylpropyl)-3-methoxyppyrazine
(<i>Z</i>)-3-hexenol	1,5-Octadien-3-one	2-(2-methylpropyl)thiazole
(<i>Z</i>)-3-Hexenyl 2 methylbutanoate	1,8-cineole	2-(2-methylpropyl)-4,5-dimethylthiazole
(<i>Z</i>)-3-hexenyl acetate	10-Undecen-1-ol	2-(4-acetylphenyl)propan-2-ol

2-(4-hydroxyphenyl)ethanol
 2-(methylthio)-2-propanethiol
 2-(*sec*-Butyl)-3-methoxypyrazine
 2,2,3-Trimethylhexane
 2,2,4-Trimethylheptane
 2,2,4-Trimethylhexane
 2,2,5-Trimethylhexane
 2,2,5-Trimethylhexane
 2,2-diethoxyethanol
 2,2-Dimethylhexane
 2,3,4-Trimethyloctane
 2,3,5,6-Tetramethylpyrazine
 2,3,5-Trimethylhexane
 2,3,5-Trimethylpyrazine
 2,3-butanedione
 2,3-butanediol
 2,3-butanedione
 2,3-butanedione(diacetyl)
 2,3-Butylene glycol
 2,3-Dehydro-1,8-cineole
 2,3-Diethyl-5-methylpyrazine
 2,3-diethyl-6-methylpyrazine
 2,3-dihydro-3,5-dihydroxy-6-methyl-4*H*-pyran-4-ol
 2,3-Dihydro-4-methylfuran
 2,3-dimethyl-5-pentylpyrazine
 2,3-Dimethylhexane
 2,3-Dimethylpentane
 2,3-Dimethylpyridine
 2,3-Heptanedione
 2,3-octanedione
 2,3-pentanedione
 2,4,10,14-Tetramethylpentadecane
 2,4,5-Trimethyl-1,3-dioxolane
 2,4,5-trimethyl-1,4-dioxolane
 2,4,5-trimethyl-2-thiazoline
 2,4,5-Trimethyloxazole
 2,4,5-Trimethylpyrazine
 2,4,5-trimethylthiazole
 2,4,5-Trithiahexane
 2,4,6-Trimethyl-1,3,5-trioxan
 2,4,6-Trimethyloctane
 2,4,7-decatrienal
 2,4-Bis(1,1-dimethylethyl)phenol
 2,4-decadienal
 2,4-Decadienol
 2,4-dihydroxy-3-methyl-pent-2-enoic acid, lactone
 2,4-dimethyl-5-ethylthiazole
 2,4-Dimethylfuran
 2,4-Dimethylheptane
 2,4-Dimethylhexane
 2,4-Dimethylpyridine
 2,4-Dimethylthiazole
 2,4-dithiapentane
 2,4-heptadienal
 2,4-heptadienol
 2,4-heptanonadienol
 2,4-hexadienol
 2,4-nonadienal
 2,4-nonadienol
 2,4-Undecadienal
 2,5-Diethyl-4-methylthiazole
 2,5-Diethylpyrazine
 2,5-dimethyl pyrazine
 2,5-dimethyl-3-ethylpyrazine
 2,5-Dimethyl-4-hydroxy-3(2*H*)-furanone
 2,5-dimethyl-4-hydroxy-3(2*H*)-furanone+nerolidol
 2,5-Dimethyl-4-methoxy-3(2*H*)-furanone
 2,5-Dimethyl-6,7-dihydro-5*H*-cyclopentapyrazine
 2,5-Dimethylfuran
 2,5-Dimethylheptane
 2,5-Dimethyloctane
 2,5-Dimethylpyridine
 2,5-Dimethyl-tetrahydrothiophene
 2,5-Dimethylthiazole
 2,5-dimethylthiophene
 2,5-dithiahexane
 2,5-hexandione
 2,5-Hexanodione
 2,5-Octadien-1-ol
 2,6,6-Trimethyl-2-cyclohexen-1,4-dione
 2,6,6-Trimethyl-2-hydroxycyclohexanone
 2,6,6-trimethyl-7-oxabicyclo[4.3.0]non-9-en-8-one(c
 2,6-Dichlorophenol
 2,6-Dimethoxyphenol
 2,6-Dimethyl-2,4,6-octatriene
 2,6-Dimethyl-3,7-octadiene-2,6-diol
 2,6-dimethyl-4-heptanol
 2,6-Dimethylheptane
 2,6-Dimethylpyrazine
 2-,and 3-Methylbutanols
 2,6-Dimethoxyphenol
 2- + 3-methyl butanol
 2-Acetyl-2-thiazoline furans and aromatic compounds
 2-Acetyl-1-pyrroline
 2-Acetyl-3-methylpyrazine
 2-acetylfuran
 2-acetylfuran+furfuryl ethyl ether
 2-Acetylpyridine
 2-Acetylpyrrole
 2-acetyltetrahydropyridine
 2-Acetylthiazole
 2-acetylthiophene
 2-aminoacetophenone
 2-and 3-methyl-1-butanol
 2-butanol
 2-Butanone
 2-Butenal
 2-Buthylbenzothiazole
 2-butyl acetate
 2-Butyl-2-octenal
 2-Caren-10-al
 2-Carene
 2-Cyclopentenone
 2-decanol
 2-Decanone
 2-decen-1-ol
 2-Decenal
 2-Dodecanone
 2-dodecenal
 2*E,4E*-decadienal
 2*E,4Z*-decadienal
 2-Ethylpropanol
 2*E*-heptenal
 2*E*-hexenoic acid
 2*E*-hexenyl acetate
 2-emthylthiophene
 2*E*-octenal
 2-ethoxyacetaldehyde
 2-Ethyl-1,3-dithiane
 2-Ethyl-1-hexanol
 2-Ethyl-1-methylbenzene
 2-ethyl-3,5-dimethylpyrazine
 2-Ethyl-3,6-dimethylpyrazine
 2-Ethyl-3-methyl pyrazine
 2-Ethyl-4-methylthiazole
 2-Ethyl-5,6-dimethylpyrazine
 2-Ethyl-5-methylpyrazine
 2-ethyl-5-methylpyrazone
 2-Ethyl-5-methylpyrizine
 2-Ethyl-6-methylpyrizine
 2-ethylfuran
 2-ethylhexanoic acid
 2-Ethylhexanol
 2-ethylphenol
 2-Ethylpyridine
 2-ethylpyridine
 2-Ethylthiophene
 2-formyl-3-methylthiophene
 2-formylthiophene
 2-formylpyrrole
 2-furaldehyde
 2-Furancarboxylic acid
 2-Furanmethanethiol
 2-furanmethanol
 2-furfural
 2-Furylmethanthiol
 2-heptanal
 2-heptanol
 2-heptanone
 2-hepten-4-one
 2-heptenal
 2-heptenol
 2-Heranone
 2-hexanal
 2-Hexanol
 2-hexanone
 2-Hexen-4-olide
 2-Hexenal
 2-hexenol
 2-hexyl-5-methyl-2,3-dihydrofuran-3-one
 2-Hexyl-5-methyl-3(2*H*)-furanone
 2-Hexylfuran
 2-Hydroxy-2-methyl-4-pentanone
 2-Hydroxy-5-methyl-3-hexanone
 2-hydroxymethylthiophene
 2-Isobutyl-3-methoxypyrazine
 2-isobutylthiazole
 2-Isopropyl-3-methoxypyrazine
 2-mercapto-3-methyl-1-butanol
 2-mercaptoethanol
 2-methoxy-3-(2-methylpropyl)-pyrazine
 2-methoxy-3-secbutylpyrazine
 2-methoxy-4-(2-propenyl)phenol (eugenol)
 2-methoxy-4-vinylphenol
 2-Methoxyphenol
 2-methoxyphenol(guaiacol)
 2-Methyl + 3-methyl-1-butanol
 2-Methyl + 3-methyl-2-buten-1-ol
 2-methyl + 3-methylbutanal
 2-Methyl butanoic acid
 2-methyl butanol
 2-methyl butanol-1
 2-Methyl butyl isovalerate
 2-methyl heptenone
 2-methyl propanol
 2-Methyl-(*E*)-2-butenol
 2-Methyl-1-butanol
 2-Methyl-1-buten-3-ol
 2-Methyl-1-cis-2-butenic acid
 2-Methyl-1-propanol
 2-Methyl-1-trans-2-butenic acid
 2-Methyl-1-vinylbenzene
 2-Methyl-2-butanol
 2-Methyl-2-buten-1-ol
 2-methyl-2-butenal
 2-Methyl-2-pentenal
 2-Methyl-2-propenal
 2-Methyl-3-butyn-2-ol
 2-methyl-3-buten-2-ol
 2-Methyl-3-ethylpyrazine
 2-Methyl-3-furanthiol
 2-Methyl-3-tetrahydrofuranone
 2-methyl-4-butanolide
 2-methyl-5-ethylpyridine
 2-Methyl-5-ethylthiophene
 2-Methyl-5-propylpyrazine
 2-methyl-5-vinylpyrazine
 2-Methyl-6-ethylpyrazine
 2-Methyl-6-methylene-1,7-octadiene-3-one
 2-Methyl-7-octadecyne
 2-Methylbenzaldehyde
 2-methylbutanal
 2-Methylbutanenitrile
 2-methylbutanoic acid
 2-Methylbutanol
 2-methylbutanol+3-methylbutanol
 2-methylbutanol+isoamy alcohol
 2-Methylbutyl 2-methylbutanoate
 2-Methylbutyl 3-methylbutanoate
 2-methylbutyl acetate
 2-methylbutyl decanoate
 2-methylbutyl octanoate
 2-Methylcyclopentanone
 2-Methylfuran
 2-Methylhexane
 2-Methylpentane
 2-methylpropanal
 2-methylpropanoic acid
 2-Methylpropanol
 2-Methylpropyl 2-methylpropanoate
 2-methylpropyl acetate
 2-methylpropyl decanoate
 2-methylpropyl octanoate
 2-methylpropylamine
 2-methylpropylmercaptan
 2-Methylpyridine
 2-methylthiazole
 2-Methylthiazole
 2-Methylthioacetic acid
 2-methylthiophan-3-ol(cis + trans)
 2-Methylthiophene
 2-Nonanol
 2-nonanone
 2-nonen-4-one
 2-nonenal
 2-nonenol
 2-octanal
 2-octanol
 2-Octanone
 2-Octen-1-ol
 2-Octenal
 2-octenol
 2-octyl-5-methyl-2,3-dihydrofuran-3-one
 2-oxo-3-methylbutyric acid
 2-oxo-3-methylpentanoic acid
 2-oxo-4-methylpentanoic acid
 2-oxopropanal
 2-oxopropanoic acid
 2-pentadecanone
 2-pentanol
 2-Pentanone
 2-penten-1-ol
 2-pentenal
 2-penten-a-ol
 2-pentenol
 2-pentenone
 2-Pentylfuran
 2-Pentylpyridine
 2-pentanone
 2-phenethyl propanoate
 2-phenetyl acetate
 2-Phenyethyl acetate

2-phenyl acetaldehyde
 2-Phenyl ethanol
 2-phenyl-2-butenal
 2-phenylacetaldehyde
 2-phenylacetic acid
 2-Phenylethanenitrile
 2-phenylethanol
 2-phenylethanol, linalool, hotrienol
 2-phenylethyl acetate
 2-Phenylethyl alcohol
 2-Phenylethyl butanoate
 2-phenylethyl decanoate
 2-phenylethyl hexanoate
 2-Phenylethyl isothiocyanate
 2-Phenylethyl lactate
 2-phenylethyl octanoate
 2-Phenylethylacetamide
 2-Phenylmethanol
 2-propanethiol
 2-Propanol
 2-Propanone
 2-Propen-1-ol
 2-propenethiol
 2-propenol
 2-propenyl isothiocyanate
 2-propenyl-2-propenethiosulfinate(allylicin)
 2-Propylthiophene
 2-sec-butyl-3-methoxypropazine
 2-Thiophenecarboxaldehyde
 2-Thiophenemethanol
 2-Tridecanol
 2-Tridecanone
 2-Undecanal
 2-Undecanol
 2-undecanone
 2-undecenal
 2-vinyl-1,3-dithiane
 2-vinyl-1,3-dithiane
 2-vinyl-4H-1,3-dithiin
 2-Vinyltetrahydro-2,6,6-trimethyl-2H-pyran
 2-vinylthiophene
 3-(Allylthio)propionic acid
 3-(ethylthio)-1-propanol
 3-(methylthio)-1-propanol
 3-(Methylthio)propanal
 3-(methylthio)propanol
 3-(methylthio)propyl acetate
 3-(methylthio)propyl isothiocyanate
 3,3,5-Trimethylheptane
 3,3-Diethoxybutan-2-one
 3,3-Diethoxypropanol
 3,3-Dimethyl 2,7-octanedione
 3,3-dimethyldecanal
 3,3-Dimethylhexane
 3,3'-Dimethylthioisobutyric acid
 3,4-dihydro-3-vinyl-1,2-dithiine
 3,4-Dihydrocinnamic acid
 3,4-dimethylthiophene
 3,5-decadien-2-one
 3,5-diethyl-2-methylpyrazine
 3,5-dihydroxy-2-methyl-4H-pyran-4-one
 3,5-dimethyl-1,2,4-trithiolane
 3,5-Dimethyl-2-ethylpyrazine
 3,5-Dimethyl-6,7-dihydro-5H-cyclopentapyrazine
 3,5-Dimethyloctane
 3,5-nonadiene-2-one
 3,5-octadien-2-one
 3,6-Diethyl-2-methylpyrazine
 3,6-Dimethyl-1,2,5-trithiepane
 3,6-dimethyl-1,4-dithiane
 3,6-Dimethyloctane
 3,6-Nonadien-1-ol
 3,7-Dimethylnonane
 3,8,8-Trimethyl-dihydronaphthalene
 3,8,8-Trimethyl-tetrahydronaphthalene
 3,5-Diethyl-1,2,4-trithiolane
 3-Buten-2-one
 3-butenenitril
 3-Butenyl isothiocyanate
 3-Butylhexahydrophthalide
 3-butyolphthalide
 3-Butyltetrahydrophthalide
 3-Carene
 3E-hexenoic acid
 3-Ethenylcyclooctene
 3-Ethoxy-2-methyl-1-propene
 3-Ethoxypropanol
 3-Ethyl-1,2-dimethylbenzene
 3-Ethyl-1-methylbenzene
 3-Ethyl-2-methyl-1,3-hexadiene
 3-Ethyl-2-pentanone
 3-Furancarboxylic acid
 3-Hexadecene
 3-Hexanone
 3-Hexen-1-ol
 3-hydroxy-2-butanone
 3-hydroxy-2-pentanone
 3-hydroxy-2-pyranone
 3-Hydroxy-4,5-dimethyl-2(5H)-furanone
 3-hydroxybutan-2-one
 3-hydroxyhexanoic acid+benzoic acid+bisabolol oxide A+ti
 3-hydroxyoctanoic acid
 3-mercapto-2-methylpropanoic acid
 3-Mercapto-3-methylbutyl fomite
 3-Mercaptoisobutyric acid
 3-methoxy-3-isopropylpyrazine
 3-Methyl butanoate
 3-methyl butanol
 3-Methyl-(E)-2-butenal
 3-Methyl-1,4-heptadiene
 3-methyl-1-butanol
 3-Methyl-1-pentanol
 3-Methyl-2-buten-1-ol
 3-methyl-2-butene-1-thiol
 3-methyl-2-butenol
 3-Methyl-2-cyclopentene-1-thione
 3-methyl-2-formylthiophene
 3-Methyl-2-nonene
 3-methyl-2-oxopentanoic acid
 3-Methyl-2-pentanol
 3-Methyl-3-buten-1-ol
 3-methyl-4-heptanone
 3-methyl-4-octanolide(oak lactone, cis isomer)
 3-methyl-4-octanolide(oak lactone, trans isomer)
 3-methyl-6-propylpyrazine
 3-methylbutanal
 3-Methylbutanenitrile
 3-methylbutanoic acid
 3-Methylbutanol
 3-Methylbutyl 2-methylbutanoate
 3-methylbutyl acetate
 3-methylbutyl decanoate
 3-methylbutyl dodecanoate
 3-methylbutyl hexanoate
 3-methylbutyl octanoate
 3-Methylbutyl propanoate
 3-methylbutylamine
 3-methylbutylic acid
 3-Methylfuran
 3-Methylheptane
 3-Methylhexanal
 3-Methylhexane
 3-Methylindole
 3-Methyloctane
 3-Methyloctane
 3-Methylpentanol
 3-Methylthiopropanoic acid
 3-Methylthiopropyl cyanide
 3-Methylthiopropyl isothiocyanate
 3-Nonen-2-one
 3-nonenol
 3-octanol
 3-Octanone
 3-octen-2-one
 3-octenol
 3-Pentanol
 3-Pentanone
 3-Penten-2-one
 3-pentanone
 3-Phenylpropanenitrile
 3-S-Acetylthioisobutyric acid
 3-S-Acetylthiomethacrylic acid
 3-Tridecen-1-ene
 3-Vinyl-1,3-dithiane
 3-vinyl-3,6-dihydro-1,2-dithiine
 3-vinyl-4H-1,2-dithiin
 4-(methylthio)-1-butanol
 4-(methylthio)butanenitril
 4-(methylthio)butyl isothiocyanate
 4(p-hydroxyphenyl)-2-butanone
 4,4,5-Trimethyl-2-hexene
 4,5-dihydroxy-3,3-dimethylbutanoic acid,lactone
 4,5-dihydroxyhexanoic acid, lactone(two isomers)
 4,5-Dimethylthiazole
 4,6-Dimethyl-1,2,5-trithiepane(Isomer)
 4,6-Dimethylundecane
 4-acetyl-2-methoxy phenol(acetovanillone)
 4-Allyl-2,6-dimethoxyphenol
 4-Butanolide
 4-Carboethoxy-γ-butyrolactone
 4-carboethoxy-4-butanolide
 4-decanolide
 4-dodecanolide
 4-Ethoxy-2-butanone
 4-Ethoxy-2-pentanone
 4-ethoxy-4-butanolide
 4-Ethyl-1,2-dimethylbenzene
 4-Ethyl-1,3-dimethylbenzene
 4-Ethyl-2,2-dimethylhexane
 4-Ethyl-2,5-dimethylthiazole
 4-Ethyl-2-methoxyphenol
 4-Ethyl-2-methylthiazole
 4-Ethyl-6-methyl-1,2,3,5-tetrahyane
 4-ethylbenzaldehyde
 4-Ethylguaicol
 4-Ethylguaicol+nerolidol
 4-ethylphenol
 4-Ethylpyradine
 4-heptenal
 4-Hexanolide
 4-hexen-1-ol
 4-hydroxy benzaldehyde
 4-Hydroxy-2(or5)-ethyl-5(or2)-methyl-3(2H)-furanone(HEMF)
 4-Hydroxy-2,5-dimethyl-3(2H)-furanone
 4-Hydroxy-2,5-dimethyl-3(2H)-furanone(HDMF)
 4-hydroxy-3-methoxy benzaldehyde(vanilla)
 4-hydroxy-3-methoxy benzoic acid
 4-Hydroxy-5-methyl-3(2H)-furanone(HMMF)
 4-Hydroxybenzaldehyde
 4-Hydroxybutanoate
 4-hydroxybutanoic acid lactone
 4-methyl-1-pentanol
 4-methyl-2-heptanol
 4-methyl-2-methoxyphenol
 4-methyl-2-pentanone
 4-Methyl-3-penten-2-one
 4-methyl-3-pentenoic acid
 4-Methyl-5-vinylthiazole
 4-Methyl-a-butanol
 4-Methylheptane
 4-Methylpentanal
 4-Methylpentyl 2-methylbutanoate
 4-Methylpyradine
 4-Methylthiazole
 4-methylthiazone
 4-Methylthiobutane nitrile
 4-Methylthiobutyl isothiocyanate
 4-Methylthiobutylcyanide
 4-Methyl-2-pentanone
 4-Nonanolide
 4-octanolide
 4-pentanolide
 4-penten-1-ol
 4-Pentenitrile
 4-Pentenyl isothiocyanate
 4-Pentylbenzaldehyde
 4-propionyl-2-methoxyphenol(propiovanillone)
 4-Propylguaicol
 4-Terpinel
 4-Terpineol
 4-Vinyl guaicol
 4-vinyl phenol
 4-Vinyl-4H-1,3-dithiin
 4-vinylguaicol
 4-vinylphenol
 4-Vinylphenyl
 5-(2-hydroxyethyl)-4-methylthiazole
 5-(Hydroxymethyl)furfural
 5-(methylthio)pentanenitrile
 5,5-dimethyl-2(5H)-furanone
 5,5-Dimethyl-2-hexene
 5,6-Diethyl-2-methylpyrazine
 5,6-Epoxy-β-ionone
 5-decanolide
 5-dodecanolide
 5-Ethyl-1,3-dimethylbenzene
 5-Ethyl-2,4-dimethylthiazole
 5-Ethyl-2-heptanol
 5-Ethyl-2-methyloxaxole
 5-Ethyl-3-hydroxy-4-methyl-2(5H)-furanone
 5-Ethyl-4-hydroxy-2-methyl-3(2H)-furanone
 5-Ethyl-4-methylthiazole
 5-formyl-6-methyl-2,3-dihydro-1H-pyrrolizine
 5-Hepten-2-one
 5-Hexenyl isothiocyanate
 5-hydroxymethyl-2-furfural
 5-hydroxymethylfurfural
 5-Methyl-[2-(furyl)methyl]-2(5H)furanone
 5-Methylfurfural+Diethylmalonate
 5-Methylthiopentyl isothiocyanate
 5-methyl-(5H)-cyclopentalbipyrazine
 5-Methyl-2-furfural
 5-Methyl-2-octyl-3(2H)-furanone
 5-Methyl-6,7-dihydro-5H-cyclopentapyrazine
 5-Methylfurfural
 5-Methylfurfuryl alcohol
 5-Methylthiopentane nitrile
 5-Methylundecane
 5-nonanolide
 5-Octadecenal
 5-octanolide
 5-Tridecanone

5-Undeca-3(*E*),5-diyne
 6,10,14-Trimethylpentadecanone
 6,7-dihydro-5H-cyclopenta-pyrazine
 6,10,14-Trimethyl-pentadecan-2-one
 6-Heptenyl isothiocyanate
 6-Methylthiohexyl isothiocyanate
 6-Methyl-3-isopropylphenol
 6-methyl-5-hepten-2-ol
 6-methyl-5-hepten-2-one
 7-*epi*- α -Selinene
 7-Hexadecene
 7-Methylthioheptyl isothiocyanate
 9,12-Octadecadienoic acid
 9-Octadecadienoic acid
 9-Octadecenal
 9-Octadecene
 a ThiopheneMW 126
 Acetaldehyde diethyl acetal
 acetal
 acetaldehyde
 Acetaldehyde ethyl 3-methylbutyl acetal
 acetic acid
 Acetoin
 acetone
 Acetonitrile
 acetophenone
 Acetovanillone
 Acetphenone
 Acetyl furan
 Acetylmethylpyrazine
 Acetylpyrazine
 Alcoholic title(% vol.)
 allo-Aromadendrene
 allyl alcohol
 Allyl disulfide
 Allyl isothiocyanate
 Allyl methyl disulfide
 Allyl methyl trisulfide
 allyl sulfide
 Allyl trisulfide
 ammonia
 amyl alcohols
 an Ethyl dodecanoate
 aniline
 Anthracene
 apiole[4,7-dimethoxy-5-(2-propenyl)-benzo-1,3-dioxolan]
ar-Curcumene
 Aromadendrene
 Artemisia acetate
 Artemisia alcohol
 Artemisia ketone
 Azelaic acid
 Benxylamine
 benzaldehyde
 benzaldehyde cyanohydrin
 Benzaldehyde+Ethyl 3-hydroxybutyrate
 benzaldehyde+unknown
 benzene
 Benzo[b]thiophene
 benzoic acid
 benzonitrile
 Benzophenone
 Benzothiazole
 benzothiophene
 Benzyl acetate
 benzyl alcohol
 benzyl benzoate
 Benzyl isothiocyanate
 Benzyl isovalerate
 benzylamine
 Benzylcyanide
 BHT
 biacetyl
 Bicycloelemene
 Bicyclogermacrene
 Bis(1,1-dimethylethyl)-4-methylphenol
 bis(2-carboxypropyl)disulfide
 bisabolol oxide B
 bisabolol oxide B(unknown structure)+ γ -decalactone cyclic S8
 Borneol
 Bornyl acetate
 Bornyl isobutanoate
 Bornyl propanoate
 branched C8 hydrocarbon
 bromodichloromethane
 Butan-2,3-diol
 Butan-2-ol
 Butanal
 Butane-2,3-dione
 Butanediol meso
 butanoic acid
 Butanoic acid, ethyl ester
 butanol
 Butenylcyclohexene
 Butoxy-methylbenzene
 Butyl 2-methylbutanoate
 Butyl acetate
 Butyl butanoate
 Butyl dodecanoate
 Butyl isobutanoate
 Butyl propanoate
 butylbenzene, *n*-
 Butyldimethylpyrazine
 Butyric acid
 C10H16(*m/z*:93(100), 121(11), 136(10))
 C5H7N(*m/z*: 41(100), 39(50), 54(50),81(43))
 C6H10S
 C6H10S2
 Camphene
 Camphene hydrate
 Camphor
 Capronaldehyde
 carbon dioxide
 carbon disulfide
 carbon tetrachloride
 carbonylsulfide
 carotol
 Carvacrol
 Carveol
 Carvone
 Caryophylla-2(12),6(13)-dien-5-ol
 Caryophylla-2(12),6(13)-dien-5-one
 Caryophylla-2(12),6-dien-5-one
 caryophyllene
 caryophyllene alcohol
 Caryophyllene oxide
 chlorobenzene
 chloroform
 chlorotoluene, *o*-
 Chrysanthenol
 Chrysanthenone
 cinnamic acid
 Cinnamyl alcohol
cis,trans- α -Farnesene
cis-2-Methyl-4-(hydroxymethyl)-1,3-dioxolane
cis-2-Methyl-5-hydroxy-1,3-dioxane
cis-3,5-Diethyl-1,2,4-trithiolane
cis-3-Ethyl-5-methyl-1,2,4-trithiolane
cis-3-Hexen-1-ol
cis-3-Hexenal
cis-3-Hexenyl acetate
cis-3-methyl-4-octanolide
cis-3-Methyl- γ -octalactone
cis-Calamenene
cis-Carveol
cis-Carvyl acetate
cis-jasnone
cis-Limonene oxide
cis-Linalool oxide
cis-Myrtanol
cis-p-2-Menthen-1-ol
cis-p-Menth-2-en-1-ol
cis-p-Mentha-2,8-dien-1-ol
cis-p-Mentha(7),8-dien-2-ol
cis-Sabinene hydrate
cis-Verbenone
cis-Verbenyl acetate
cis- β -Ocimene
cis- β -Terpineol
 Citral
 Citric acid
 citric acid tributyl ester acetate
 Citronellal
 Citronellol
 Citronellyl acetate
 Comphor
 coniferaldehyde
 Copaene
 cresol
 Cubebol
 cumene
 Cuminaldehyde
 cyclic S8
 Cyclohexanone
 Cyclohexyl acetate
 Cyclooctanol
 Cyclopentanol
 Cyclopentanol
 Cyclopentanone
 cyclopentylbenzene
 Cyclotene
 damascenone
 decadienal
 decanal
 decane
 decanoic acid
 Decanol
 decanol-1
 Dehydroionene
 Dehydro-*p*-cymene
 demethyl disulfide
 deptadecane
 d-Hexalactone
 di-(3-methylbutyl) acetal
 di-2-propenyl trisulfide
 diacetyl
 Diallyl trisulfide
 Diallyl disulfide
 Diallyl sulfide
 dichlorobenzene, *o*-
 dichlorobenzene, *p*-
 Diethoxyethyl acetate
 Diethoxymethane
 diethyl disulfide
 Diethyl ether
 Diethyl fumarate+Phenylacetaldehyde
 Diethyl hexanedioate
 Diethyl malate
 diethyl malonate
 Diethyl malonate+5-Methylfurfural
 Diethyl methylsuccinate
 Diethyl oxalate
 Diethyl succinate
 Diethyl tartrate
 Diethylamine
 Dihydrocarvone
 Dihydrocarveol
 Dihydro-2-methyl-3(2H)-furanone
 Dihydro-2-methyl-3(2H)-thiophenone
 dihydrotrimethylnaphthalene
 Diisobutyl hexanedioate
 Diisobutyric acid disulfide
 Diisopentylsuccinate
 dimethyl sulfone
 dimethyl disulfide
 dimethyl sulfide
 Dimethyl sulfoxide
 Dimethyl trisulfide
 Dimethyl trisul
 Dimethyl trisulfide
 dimethylamine
 Dimethyldisulfide
 Dimethylethyl-methylphenol
 Dimethylpropylpyrazine
 Dimethyltetrasulfide
 dimethyl- β -propiothetin
 Dimyrcene isomer
 dipropyl disulfide
 Dipropyl disulfide
 dipropyl trisulfide
 d-limonene
 Docosane
 dodecanal
 Dodecane
 dodecanoic acid
 Dodecanol
 Dodecatriene
 Dodecenoic acid
 dodecyl acetate
 Eductan I
 Eethyl *n*-decanoate
 Eethyl *n*-undecanoate
 Eicosane
 E-Isoeugenol
 Elemicin
 Elemyl acetate
 Elixene
epi-13-Manoyl oxide
epi-bisabolol oxide B
epi- α -Muurolol
 Epoxy- β -ionone
 Ethanal
 ethanethiol
 Ethanol
 Ethl formate
 Ethoxyethyl acetate+2-Octanone
 ethy decanoate
 ethy propyl succinate
 Ethyl crotonate
 Ethyl (*Z*)-2-butenate
 Ethyl (*Z*)-9-hexadecenoate
 ethyl 1-(methylthio)propyl disulfide
 ethyl 1,2-dithiolane-4-carboxylate
 Ethyl 2-furancarboxylate
 Ethyl 2-furanoate
 ethyl 2-furoate
 Ethyl 2-hydroxy-3-methylbutanoate
 Ethyl 2-hydroxy-4-methylpentanoate
 Ethyl 2-hydroxyglutarate
 Ethyl 2-hydroxyisobutyrate
 Ethyl 2-hydroxypropanoate
 ethyl 2-hydroxypropanoate(ethyl lactate)

ethyl 2-methyl propanoate
 ethyl 2-methylbutanoate
 Ethyl 2-methylbutyrate
 Ethyl 2-methylpropanoate+1,1Diethoxypropane
 ethyl 2-methylpropyl succinate
 Ethyl 2-oxopropanoate
 Ethyl 2-phenylacetate
 ethyl 3-(methylthio)propanoate
 Ethyl 3-ethoxypropanoate
 ethyl 3-hydroxy-2-methylbutyrate
 Ethyl 3-hydroxybutanoate
 Ethyl 3-hydroxybutyrate
 ethyl 3-hydroxyhexanoate
 ethyl 3-mercapto propanoate
 ethyl 3-methyl butanoate
 ethyl 3-methylbutyl acetal
 ethyl 3-methylbutyrate
 ethyl 3-methylbutanoate
 Ethyl 4-hydroxybenzoate
 ethyl 4-oxopentanoate
 ethyl 5-hydroxymethyl-2-furoate
 ethyl 6,9,12-octadecatrienoate
 ethyl 9,12-octadecadienoate
 ethyl 9,12-octadienoate
 ethyl 9-decenoate
 ethyl 9-hexadecenoate
 ethyl 9-octadecenoate
 ethyl acetate
 ethyl benzene
 ethyl benzoate
 ethyl butanoate
 ethyl butyrate
 Ethyl caproate
 ethyl cinnamate
 Ethyl citrate
 ethyl decanoate
 ethyl dodecanoate
 ethyl esters of 3-hydroxyoctanoate
 ethyl formate
 Ethyl heptanoate
 Ethyl hexadecanoate
 Ethyl hexadecanoate
 ethyl hexanoate
 ethyl hydrogen succinate
 Ethyl isobutylsuccinate
 Ethyl isobutyrate
 Ethyl isopentylsuccinate
 Ethyl isovalerate
 Ethyl lactate
 Ethyl linolate
 Ethyl linoleate
 Ethyl *n*-butyrate
 Ethyl *n*-dodecanoate
 Ethyl *n*-heptadecanoate
 Ethyl *n*-heptanoate
 Ethyl *n*-hexadecanoate
 Ethyl *n*-hexanoate
 ethyl nicotinate
 Ethyl *n*-nonanoate
 Ethyl *n*-octanoate
 ethyl nonanoate
 Ethyl *n*-pentadecanoate
 Ethyl *n*-propylsuccinate
 Ethyl *n*-tetradecanoate
 Ethyl *n*-valerate
 Ethyl octadecanoate
 ethyl octanoate
 Ethyl oleate
 Ethyl palmitate
 Ethyl palmitoleate
 ethyl pentanoate
 Ethyl phenylacetate
 ethyl propanoate
 Ethyl propionate
 Ethyl pyruvate diethyl ketal
 Ethyl stearate
 Ethyl syringoate+Acetosyringone
 Ethyl tetradecanoate
 ethyl thiol acetate
 Ethyl vanillate
 Ethyl(2-furancarboxylate)
 Ethyl(2-methylbutyrate)
 Ethyl(3-methoxy-4-hydroxybenzoate)
 Ethyl(β -phenylpropionate)
 ethyl 1 4-hydroxybutyrate
 Ethyl-2-methylbutanoate
 Ethyl-acetate
 ethylamine
 Ethylbenzaldehyde
 ethylbenzene
 ethyldithioethane
 Ethylmercaptan
 Ethyl-pentanoate
 Ethylpyrazine
 Ethylpyroglutamate
 ethylthioethane
 Eucarvone
 eugenol
 farnesene
 farnesol
 farnesyl acetate
 Ferulic acid
 Formaldehyde diethyl acetal
 formic acid
 Furan
 Furaneol
 furfural
 Furfuryl alcohol
 furfuryl ethy ether
 Furoic acid
 Furyl methyl ketone
 geranial
 geraniol
 geranyl 2-methylpropanoate
 Geranyl acetate
 Geranyl acetone
 geranyl butanoate
 Germacrene-4-ol
 Germacrene D
 Germacrene D-4-ol
 Gleenol
 Globulol
 Glycerol
 Guaiacol
 Heneicosane
 Hepatane
 Hepta decane
 Heptacosane
 Heptadecane
 heptan-2-ol
 heptanal
 Heptanal nitrogen compounds
 Heptanoic acid
 Heptanol
 heptanone-2
 Hepton-2-one
 Hexacosane
 Hexadecanal
 hexadecane
 Hexadecanoic acid
 hexadecanol
 Hexadecenal
 Hexan-1-ol
 hexanal
 hexanethiol
 hexanoic acid
 Hexanoic acid, ethyl ester
 Hexanoic acid, propyl ester
 hexanol
 hexanone-2
 hexanoic acid
 hexenal
 Hexyl 2-hydroxypropanoate
 Hexyl acetate
 Hexyl butanoate
 Hexyl hexanoate
 hexylbenzene
 hexylformate
 hop ether
 Hotrienol
 humuladienone
 humulene
 humulene epoxide I
 Humulene epoxide II
 humulenol II
 hydrocyanic acid
 hydrogen sulfide
 Hydroxyacetone
 hydroxycitronellol
 hydroxypropanone
 indole
 Isoamyl acetate
 Isoamyl alcohol
 Isoamyl formate
 Isoamyl *n*-butyrate
 Isoamyl *n*-decanoate
 Isoamyl *n*-dodecanoate
 Isoamyl *n*-hexadecanoate
 Isoamyl *n*-hexanoate
 Isoamyl *n*-octanoate
 Isoamyl *n*-tetradecanoate
 Isoamyl *n*-valerate
 Isoamyl propionate
 Isobutanol diethyl acetal
 isobutanol
 Isobutyl 2-hydroxypropanoate
 Isobutyl acetate
 Isobutyl alcohol
 Isobutyl butanoate
 Isobutyl cyanide
 Isobutyl deanoate
 isobutyl disulfide
 Isobutyl hexanoate
 Isobutyl isothiocyanate
 Isobutyl *n*-decanoate
 Isobutyl octanoate
 Isobutyl propionate
 Isobutylaldehyde
 Isobutyrate
 isobutyric acid
 Isoeugenol
 Isohexanoic acid
 Isopentanol
 Isopentyl 2-hydroxypropanoate
 Isopentyl 2-methylpropanoate+Limonene
 Isopentyl acetate
 Isopentyl benzoate
 Isopentyl butanoate
 Isopentyl butyrate
 Isopentyl decanoate
 Isopentyl dodecanoate
 Isopentyl formate
 Isopentyl hexanoate
 Isopentyl octanoate
 Isopentyl propanoate
 isopentyl sulfide
 Isopentyl tetradecanoate
 Isopentyl-2-methyl butanoate
 Isopentylamine
 Isopiperitenone
 Isopropyl isothiocyanate
 Isopropyl plamitate
 Isopropylamine
 Isoubtlyl cyanide
 Isovaleraldehyde
 Isovaleric acid
 Isovaleric acid
 Isupulegol
 karahana ether
 Kaurene
 lactic acid
 Lavandulyl acetate
L-Carvone
L-Carvyl acetate
 lenthionine
 Lilac aldehyde (isomer I)
 Lilac aldehyde (isomer II)
 Lilac aldehyde (isomer III)
 Lilac aldehyde (isomer IV)
 Limonene
 Limonene+Isopentyl-2-methyl propanoate
 linalool
 Linalool acetate
 linalool oxide
 Linalool Oxide I
 Linalool Oxide II
 linalool oxide(furanoid)
 linalool oxide(pyranoid)
 Linalyl acetate
 Linelool oxide III
 Linelool oxide IV
L-Perillaldehyde
L-Perillyl alcohol
 Malic acid
 Malonic acid
 Malonyl oxide
 Maltol
m-cresol
m-cymene
 Methyl decanoate
 Menthene
 Menthol
 menthol and methyl 3-hydroxyhexanoate
 mesifurane
 Metahnol
 methanethiol
 Methanol
 methional
 Methionol
 Methoxycitronellal
 methyl (E)-1-propenyl disulfide
 Methyl (*Z*)-9-octadecanoate
 Methyl 1,2-dithilane-4-carboxylate
 methyl 1,2-dithiolane-4-carboxylate
 Methyl 2-furoate
 methyl 2-hydrox-3-methylbutyrate
 methyl 2-hydroxybutyrate
 methyl 2-methylbutanoate
 methyl 2-methylbutanone
 Methyl 2-methylpropanoate
 methyl 3-hydroxybutyrate
 methyl 3-*S*-acetylthiomethacrylate

methyl acetate
 methyl allyl disulfide
 Methyl allyl sulfide
 Methyl allyl trisulfide
 Methyl and Ethyl succinate
 Methyl anisate
 Methyl benzoate
 methyl butanoate
 methyl butanone
 Methyl citronellate
 Methyl decanoate
 Methyl dodecanoate
 Methyl ethylglutarate
 Methyl eugenol
 methyl formate
 Methyl geranate
 Methyl hexadecanoate
 methyl hexanoate
 Methyl *n*-decanoate
 Methyl *n*-dodecanoate
 Methyl *n*-hexadecanoate
 methyl nicotinate
 Methyl *n*-octanoate
 Methyl octadecanoate
 Methyl octanoate
 Methyl pentadecanoate
 Methyl pentyl disulfide
 Methyl propanal
 methyl propyl disulfide
 methyl propyl tetrasulfide
 methyl propyl trisulfide
 Methyl pyrrolo-(1,2- α)-pyrazine
 methyl salicylate
 Methyl tetradecanoate
 methyl thiol acetate
 methyl-1,2,3-trithiacyclopentane
 methyl-1,2-dithiolane-4-carboxylate
 methyl-1-propenyl trisulfide
 Methyl-2-butan-1-ol
 Methyl-2-propan-1-ol
 methyl-2-propenyl disulfide
 Methyl-3-butan-1-ol
 methylallylpyrazine
 Methylamine
 Methylbutanal
 Methylcyclohexane
 methylthiomethane
 Methylene thiol sulfide
 methylethylpyridine
 Methylmercaptan
 Methylnaphthalene
 Methyl-*n*-methyl antranilate
 Methylpropanal
 methylpropylpyrazine
 Methylpyrazine
 methylthiobutane
 Methylthiocyanate
 methylthiomethane
 Methyltrithiane
 methyltrithiomethane
 metyl butyrate
 metylthiirane
 moltol
 Monoethyl citrate
 Monoethyl succinate
 monoterpene acetate
 Mycenol
 myrcene
 myristicin
 Myrtenal
 Mytenol
N-(3-Methylbutyl)acetamide
 N=C=S
 Naphthalene
N-Benzylmethylamine
n-Butanol
n-Buthylamine
n-Butyl acetate
n-Butyl alcohol
n-Butyric acid
n-capro-aldehyde
n-decanoic acid
 NDMA
n-Dodecanal
 Neral
 Nerol
 Nerolidol
 Nerolidol+4-Ethylguaicol
 Neryl acetate
 Neryl propionate
N-ethylsuccinimide
n-Heptane
n-Heptanoic acid
n-hexadecanoic acid

n-Hexanal
n-Hexane
n-Hexanoic acid
n-Hexanol
n-Hexyl acetate
n-Hexyl formate
N-Methyl phenethylamine
N-Methylphenylethylamine
N-methyltyramine
n-Nonanoic acid
n-Nonanol
n-Nonenal
 NO₃ content
n-Octadecane
n-Octanoic acid
 Nonadecane
 Nonanal
 Nonanaldiethyl acetal
 nonanoic acid
 Nonanol
 nonanone-2
 Nonatrienal
 Nonen-2-ol
 Nonen-2-one
 nootkatone
n-Pentadecane
n-Pentane
n-Pentylamine
n-Propanol
n-Propyl acetate
n-Propyl alcohol
n-Propyl *n*-butyrate
n-Propyl *n*-hexadecanoate
n-Propyl propionate
n-Tetradecanal
n-valer-aldehyde
n-Valeric acid
o-Aminoacetophenone
o-Chlorophenol
o-cresol
 Oct-1-en-3-ol
 Octadecadienoic acid
 octadecane
 Octadecanoic acid
 octadecenal
 Octadecanol
 Octan-3-ol
 Octan-3-one
 octanal
 octanoic acid
 Octanoic acid, ethyl ester
 octanol
 octanone-2
o-Cymene
o-Hydroxyacetophenone
 oleic acid
o-Xylene
p-1,3,8-Methatriene
 Pantalactone
p-Cimen-8-ol
p-Coumaric acid
p-cresol
p-Cymen-8-ol
p-Cymene
 Penanol
 Pentacosane
 Pentadecan-2-one
 pentadecanal
 Pentadecane
 Pentadecanitrile
 Pentadecanoic acid
 pentadecatne
 Pentalamine
 Pentan-1-ol
 Pentanal
 Pentanoic acid
 pentanol
 Pentanol-1
 Pentanol-2
 Pentanone
 pentanone-2
 pentlactone
 Pentyl 2-methylbutanoate
 Pentyl acetate
 Pentyl octanoate
 pentylbenzene
 Pentylidimethylpyrazine
 Pentylmethylpyrazine
 Perillaldehyde
 Phellandral
 Phenethyl alcohol
 Phenethylamine
 phenol
 Phenyl aldehyde

Phenyl-2-ethanole
 Phenyl-2-ethyl acetate
 phenylacetaldehyde
 Phenylacetaldehyde+Diethyl fumarate
 phenylacetic acid
 phenylacetnitrile
 phenylalhyl acetate
 Phenylethyl 2-methylpropanoate
 Phenylethyl 3-methylbutanoate
 Phenylethyl acetate
 phenylethyl alcohol
 Phenylethyl propanoate
p-hydroxyphenylethyl alcohol
 phytol
 Phytone
 Pinocarveol
 Pinocarvone
 Pinocarvyl acetate
 Piperitol
 Piperitone
 Piperityl acetate
p-Mehtha-1(7),8-dien-2-ol
p-ment-8-ene-1,2-diol
p-Menth-2-en-1-ol
p-Mentha-1(7),8-dien-2-yl acetate
p-mentha-1,3,8-triene
p-Mentha-8-ene-1,2-diol
p-Methylbenzaldehyde
 Potassium
 Propan-1-ol
 propanal
 Propanediol
 propanethiol
 Propanoic acid
 Propanol
 Propene
 Propenethiol
 Propionaldehyde
 Propionic acid
 propyl 1-propenyl disulfide
 propyl 3-(methylthio)acetate
 Propyl acetate
 Propyl allyl disulfide
 Propyl dodecanoate
 Propyl hexadecanoate
 Propyl isothiocyanate
 Propyl octanoate
 propyl propanoate
 Propyl tetradecanoate
 Propyl-acetate
 propylbenzene, *n*-
 Propyl-propanoate
 Pseudoionone
p-Tolualdehyde
p-vinylguaiaicol
p-vinylphenol
p-Xylene
 Pyradine
 Pyridine
 Pyroglutamic acid
 Pyrrole-2-carbaldehyde
 Quinic acid
 Raspberry ketone
 S-140
 S-172
 sabinene
 Salicylaldehyde
 Santolina triene
 scopoletin
sec-Butyl isothiocyanate
 Shikimic acid
 sinapaldehyde
 sinensal
 Skatole
 Sodium
 Sotolone
 Spathulenol
 styrene
 Succinic acid
 Sulfinilbismethane
 Sulfonylbismethane
 sulfur dioxide, free
 sulfur dioxide, total
 Sum of higher alcohols
 sylene, *o*-
 syringaldehyde
 Teracosane
 Terpinen-4-ol
 Terpeneol
 Terpinolene
 tetrachloroethylene
 Tetracosane
 tetradecanal
 Tetradecane

tetradecanoic acid	α -Bourbonene
Tetradecanol	α -Bulnesene
Tetradecene	α -Cadinene
tetradecyl acetate	α -Cadinol
Tetramethylpyrazine	α -Campholenal
Thiacyclopropanoic acid	α -Caryophyllene
thialdine	α -cedrene
Thiophene-2-carboxaldehyde	α -Citral
Thujyl acetate	α -Copaene
Thujyl alcohol(first)	α -Cubebene
Thujyl alcohol(second)	α -Elemol
toluene	α -Fenchol
tota acid	α -Gurjunene
Touidine	α -Humulene
<i>trans</i> -Verbenyl acetate	α -Humulene epoxide I
<i>trans,trans</i> -Deca-2,4-dienal	α -Humulene epoxide II
<i>trans,trans</i> -Hepta-2,4-dienal	α -Ionene
<i>trans,trans</i> -Nona-2,4-dienal	α -ionol
<i>trans,trans</i> - α -Farnesene	α -lonone
<i>trans</i> -1-Propenyl methyl disulfide	α -Longipinene
<i>trans</i> -2-Heptenal	α -Muurolene
<i>trans</i> -2-Hexen-1-ol	α -Muurolol
<i>trans</i> -2-Hexenal	α -Phellandrene
<i>trans</i> -2-Hexenol	α -Pinene
<i>trans</i> -2-Methyl-4-(hydroxymethyl)-1,3-dioxolane	α -Terpinene
<i>trans</i> -2-Methyl-5-hydroxy-1,3-dioxane	α -terpineol
<i>trans</i> -2-Octenal	α -Terpinyl acetate
<i>trans</i> -2-Octenol	α -Thujone
<i>trans</i> -2-Pentenal	α - <i>trans</i> -Bergamotene
<i>trans</i> -3,5-Diethyl-1,2,4-trithiolane	α -Ylangene
<i>trans</i> -3-Ethyl-5-methyl-1,2,4-trithiolane	β -Acorenol
<i>trans</i> -3-Hexenol	β -Bisabolene
<i>trans</i> -3-methyl-4-octanolide	β -Bourbonene
<i>trans</i> -Cadina-1,4-diene	β -Caryophyllene
<i>trans</i> -Carveol	β -Cedrene
<i>trans</i> -Carvyl acetate	β -Copaene
<i>trans</i> -Limonene oxide	β -Cubebene
<i>trans</i> -linalool oxide	β -Curcumene
<i>trans</i> -Linalool oxide (furanoid)	β -Cyclocitral
<i>trans</i> -Muurola-e,5-diene	β -Damascenone
<i>trans</i> -Myrtanol	β -Elemene
<i>trans</i> -Nerolidol	β -Ethoxypropionic acid
<i>trans-p</i> -2,8-Menthadien-1-ol	β -farnesene
<i>trans</i> -Pinocarveol	β -Guaine
<i>trans</i> -Piperitol	β -Gurjunene
<i>trans-p</i> -Menth-2-en-1-ol	β -Himalachene
<i>trans-p</i> -Mentha-2,8-dien-1-ol	β -Humulene
<i>trans-p</i> -Menth(7),8-dien-2-ol	β -ionone
<i>trans</i> -Sabinene hydrate	β -Myrcene
<i>trans</i> -Verbenol	β -phellandrene
<i>trans</i> - α -Bergamotene	β -Phenylethanol
<i>trans</i> - β -Farnesene	β -Phenylethyl cetate
<i>trans</i> - β -Guaiene	β -Phenylethyl <i>n</i> -decanoate
<i>trans</i> - β -Methyl- γ -octalactone	β -Phenylethyl <i>n</i> -octanoate
<i>trans</i> - β -Ocimene	β -Pinene
<i>trans</i> - β -Terpineol	β -Selinene
trichloroethylene	β -Thujone
Tricosane	γ -bisabolene
Tricyclene	γ -Butyrolactone
tridecanal	γ -Cadinene
Tridecanol	γ -Caryophyllene
Tridecane	γ -Decalactone
Tridecanoic acid	γ -Dodecalactone
tridecanone-2	γ -dodecalactone+ ρ vinylphenol
triethoxymethane	γ -Dodecanolactone
triethyl citrate	γ -Elemene
Triethylpyrazine	γ -Eudesmol
Trimethylamine	γ -Gurjunene
trimethylpyrazine	γ -heptalactone
Trimethylthiazole	γ -hexalactone
Trpinolene	γ -lactone
Tyrosol	γ -Muurolene
Undecanal	γ -Nonalactone
Undecane	γ -octalactone
undecanol	γ -Tepineol
undecanone-2	γ -terpinene
Undecenal	γ -Terpineol
valencene	δ -2-Carene
vanillin	δ -Cadinene
Veratrol	δ -Cadinol
Verbenol	δ -decalactone
Verbenone	δ -Decanolactone
Verbernone	δ -Dodecalactone
Vinillin	δ -Elemene
Viridiflorene	δ -hexalactone
Vitispirane	δ -Hexanolactone
v-Nonalactone	δ -Octalactone
Vomifoliol	δ -Octanolactone
xylene, <i>m</i> - and/or <i>p</i> -	ρ -vinylguaiaacol
xylene, <i>o</i> -	ρ -Xylene
Yomogi alcohol	Σ 2-and 3-Methyl-1-butanol
Zingiberene	σ -Hexalactone
α -Bergamotene	τ -Muurolol
α -Bisabolol	

平成 22 年度厚生労働科学研究費補助金(食品の安心・安全確保推進研究事業)
「食品衛生監視員による食品衛生監視手法の高度化に関する研究」
分担研究報告書

監視指導の高度化のための科学的データ・情報の収集
違反食品対応に関する研究

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研究要旨：

平成 21 年度に作成した違反食品対応マニュアルの骨子素案を、12 自治体(24 施設 62 名)から本骨子試行後のアンケートを回収し、集計、解析を行った。5 段階評価では、「全体の評価」が平均 3.5 点で、内容の「必要な項目は列挙されていた」が 3.8 点で最も高く、8 種類の様式の「使いやすかった」はいずれも低評価(3.0 以下)であった。アンケートの回答で各項目に対するコメントは多数あったが、大幅な改正意見はなく、部分的な追加、修正、不要等の意見にとどまった。提出されたコメントを参考に、できるだけ多くの自治体が本骨子素案を雛形として活用できるよう、大局的な観点から文面の追加、修正、削除等を行い、骨子素案の修正版を作成した。

A. 研究目的

食品衛生法に基づく違反またはその疑いのある食品を迅速かつ適切に処理し、危害の防止を最小限にすることは、食品衛生上重要な事項である。しかし、食品衛生監視員の違反食品の対応に関しては、監視員各自の経験や知識によるところが大きい。違反食品対応マニュアルが整備されている自治体は少なく、特に経験の浅い食品衛生監視員にとっては、スムーズに処理することが困難な場合も少なくない。また、食品製造企業の肥大化や加工食品の広域流通に伴い、自治体毎に同一違反食品に対する処理が異なることは望ましいことではない。昨年度の本研究で 5 自治体のマニュアルをもとに違反食品対応マニュアルの骨子素案を作成した。本年度は、この骨子素案をより使いやすいものにすることを目的に、希望自治体に試行およびアンケ

ートを依頼した。回収した 12 自治体のアンケート結果を解析し、マニュアルの内容について検討を行い、昨年度のマニュアルの修正を行った。

B. 研究方法

平成 21 年度に作成した「違反食品対応マニュアル骨子素案」を希望のあった自治体に配布し、平成 22 年 10 月から平成 23 年 1 月の間(試行期間 1~3 ヶ月)に、各自治体での違反食品対応業務に際し本骨子素案の試行を依頼した。試行した自治体には骨子素案に対する感想をアンケートに記入してもらい、回収した。アンケートの内容は、各項目についてレビュー、追加、修正、不要のいずれかにチェックをし、具体的な意見を記入する方法と骨子素案の 15 項目の 31 評価箇所について 5 段階で評価する方法で実

施した。

回収したアンケートを集計および解析し、骨子素案の問題点について検討し、骨子素案の修正を行った。

C. 研究結果

1. アンケート参加自治体およびアンケート協力者の食品監視員経験年数

本骨子素案の試行およびアンケートに関して協力を得られた自治体は、旭川市(1施設 2名)、秋田県(5施設 8名)、宮城県(1施設 1名)、東京都文京区(1施設 4名)、藤沢市(1施設 7名)、石川県(1施設 1名)、奈良市(1施設 8名)、尼崎市(1施設 1名)、姫路市(1施設 2名)、愛媛県(5施設 15名)、福岡県(5施設 12名)および鹿児島県(1施設 1名)で合計12自治体24施設62名であった。アンケート協力者の食品監視員経験年数は、最低が9ヵ月、最高が25年10ヵ月で、平均6年2ヵ月であった。なお、埼玉県(1施設 1名)については、骨子素案の内容についてコメントのみ協力をいただいた。

2. 骨子素案に対するコメント

大幅な改正を求める意見はなく、部分的な追加、修正、不要に関する意見が多数提出された(表1)。政令市や中核市の場合、都道府県のように複数の保健所を所管する食品衛生主管課が存在しない場合が多いため、骨子素案に記載してある主管課の表現の削除を求める要望が多数提出された。また、ほとんどの自治体に違反食品処理時に使用する書式が既にあるため、各種様式の掲載は必要ないとの意見も多かった。さらに、行政処分要領についても、多くの自治体で整備されているので、自治体毎のマニュアルに従えば良いとの意見があった。

3. 骨子素案に対する評価

アンケート協力者62名の評価点の集計および平均点を表2にまとめた。内容の「必要な項目は列挙されていた」、「具体的であった」およ

び違反食品等報告書事例1~3は評価点4が最多数であったが、それ以外の項目では評価点3が最も選択した人が多かった。評価点4が最も多い項目は、平均点も高く、内容の「必要な項目は列挙されていた」が3.8点で最も高かった。多くの項目の平均点が3点台であったが、内容の「実際の現場で役立った」と8種類の添付様式(報告書様式、改善計画書様式等)の「使いやすかった」では、平均点が3点以下となり、評価が低かった。

4. 骨子素案の修正

提出されたコメントを参考に、できるだけ多くの自治体が本骨子素案を雛形として活用できるよう、アンケート実施施設に特化した意見は取り入れず、大局的な観点から文面の追加、修正、削除等を実施した。なお、都道府県、政令市、中核市等で食品衛生行政に係る組織形態が異なるが、本骨子素案の文章内では、県の組織を想定して作成した。骨子素案の文章部分については表3(目的、行政上の基本原則、行政処分の基準)、表4(違反食品処理手順)および表5(違反食品処理手順運用上の留意点)に新旧対象表を示した。また、骨子素案全体の修正版については本分担研究報告書の最後尾に添付した。(別添1)

D. 考察

今回、検討を行った違反食品対応マニュアルの骨子素案は、5自治体のマニュアルを比較検討し、必要と思われるものは、すべて取り入れたので、アンケート結果でも、「必要な項目は列挙されていた」が、最も高い評価になったものと思われる。また、各種様式は、比較検討に用いた各自治体のマニュアルに添付されていたものの多くを添付したが、アンケートに参加したほとんどの自治体が既に整備されている様式を試用しているので、今回添付した様式の「使いやすかった」の項目の平均点が低くなったことが考えられる。

食品衛生行政を担う自治体内の組織形態は様々で、都道府県のように主管課と複数の保健所が存在するところと中核市のようにすべての食品衛生業務を保健所で行うところがある。また、関係部署の名称も様々である。今回試行を行った自治体からの意見は、これらの背景に基づく低評価やコメントが多かった。しかし、ほとんどの自治体がそのまま使えるマニュアル作成は不可能なので、今回は、文面中では、主管課と複数の保健所を有する「県」を想定して、作成した。今回の骨子素案は、あくまでも雛形なので、実際に各自治体が違反食品対応マニュアルを作成するときには、実情に合わせた多くの変更が必要になるものと思われる。

E. 結論

平成 21 度に作成した違反食品対応マニュアルの骨子素案に関して 62 名の食品衛生監視員からの試行後のアンケート結果を解析し、それに基づき骨子素案を修正した。今回の作業でより良いマニュアルになったと思われるので、本骨子素案が各自治体でマニュアル作成する際

の参考になることが望まれる。

F. 健康危険情報

該当なし

G. 研究報告

1. 論文発

該当なし

2. 学会発表

該当なし

H. 知的財産権の出願・登録状況

1. 特許取得

該当なし

2. 実用新案

該当なし

3. その他

表 1 各項目に対するコメント数

項目	ページ	コメントの種類				合計
		レビュー	追加	修正	不要	
違反食品対応の目的	1		1	1		2
行政処分の基本原則と基準	1～2	1	2	8	3	14
行政処分の基準(別表)	3～4	2	4	5		11
違反食品処理手順	5～8	7	14	31	8	60
違反食品処理手順運用上の留意点	9～10		4	2	2	8
違反食品発見時の措置フロー	11	1	4	1	1	7
違反食品を認定する場合の注意事項	12					0
違反食品等報告書事例と様式	13～17		1	5	1	7
違反食品等の発見について(通知)の様式	18		3	1	1	5
違反食品等の調査について(回答)の様式と記入例	19～20		1	2		3
保管請書様式	21			1	1	2
改善計画書様式	22		3	1		4
申立書様式	23～26			1	1	2
自主回収報告書様式	27～28			2	1	3