SHIMADZU
Excellence in Science

CoreFocus Report

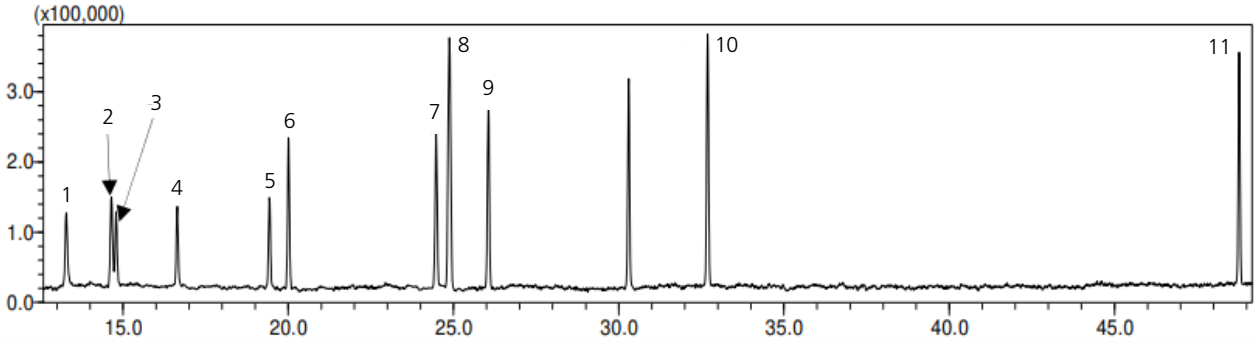
No.392

GCMS | TD | SH Series

SH-I-624Sil MS

Analysis of Volatile Organic Compounds in Indoor Air

Keywords: Environment , VOCs



1. Chloroform, 2. Benzene, 3. 1,2-Dichloroethane, 4. Ethyl acrylate, 5. Methyl isobutyl ketone, 6. Toluene, 7. Ethylbenzene, 8. *m*-Xylene and *p*-xylene, 9. *o*-Xylene, 10. 1,2-Dichlorobenzene, 11. Hexadecane

System Configuration

Model	:	GCMS-QP™2020 NX/TD-30
Column	:	SH-I-624Sil MS (60 m x 0.32 mm I.D., 1.80 µm) P/N : 221-75963-60

TD

Tube desorb. temp.	:	250 ˚C (10 min)
Tube desorb. flow	:	70 mL/min
Trap cooling temp.	:	-25 ˚C
Trap desorb. temp.	:	250 ˚C (2 min)
Joint temp.	:	75 ˚C
Valve temp.	:	185 ˚C
Transfer line temp.	:	220 ˚C

GC

Control mode	:	Constant pressure (200 kPa)
Carrier gas	:	He
Injection mode	:	Split
Split ratio	:	10
Column oven temp.	:	35 ˚C (5 min) – (5 ˚C /min) – 280 ˚C (5 min) (Down the temperature with-10 ˚C/min until 100 ˚C)

MS

Ion source temp.	:	230 ˚C
Interface temp.	:	200 ˚C
Measurement mode	:	FASST (Scan/SIM)
Scan mass range	:	*m/z* 20 - 600
Measurement mode	:	SIM
SIM monitor *m/z*	:	See below

No	Compound	Target ion *m/z*	Reference ion *m/z*
1	Chloroform	83	85, 47
2	Benzene	78	77, 50
3	1,2-Dichloroethane	62	64, 27
4	Ethyl acrylate	55	73
5	Methyl isobutyl ketone	43	58, 100
6	Toluene	91	92
7	Ethylbenzene	91	106
8	m-Xylene and p-xylene	91	106
9	o-Xylene	91	106
10	1,2-Dichlorobenzene	146	111, 148
11	Hexadecane	57	71, 85

Source : Application News M313 (JP, ENG)

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